

No. 15,272

- 15606

No. 50.

Field Book

of

W.L. Jepson.

- 1929 -

This book is valuable to owner.
If lost please return to W.L. Jepson,
11 Mosswood Road, Berkeley, Calif. and
receive reward.

- The abbreviation "F.B." means
Jepson Field Book.

Maxwell, Colusa Co.,
Sept. 26, 1929.

1

- Left Berkeley on Tuesday aft. Arrived
at the Little Oak ranch at early
candle light. Next morning went
into Vacaville to have the motor
tuned up. The garage mechanics
laid down the engine and found
a broken valve. It was noon
the next day before I got free
of the repair men's place.
Took the road to Winters. Be-
yond Madison, on the dry rolling
gravelly sun-bitten treeless plain
saw a ranch which was
raising turkeys. It was some-
thing of a sight to see
near a thousand of them feeding
in the fields, picking up
shattered grain in the stubble.
On northward, over dirt roads, to
Zamorra on the paved highway
Near Madison, on the dry
(c. 200 ft.)

hills I collect:

No. 15, 272. *Hemizonia* (*Leontodon*) *fitchii* Gray. It is common over these low dry hills or rolling plains all the way to Red Bluff!

No. 15, 273. *Trichostema lanceolatum* Bth. With 15, 272.

- Near Maxwell one runs into the alkali goose lands of Colusa Co. Here I collect:

No. 15, 274. *Atriplex argentea* ssp. *expansa*. Most of the plants are much larger than the small spms. taken; they grow to be 2½ feet broad and 2 feet high.

- From Orland to Red Bluff the road passes over low rolling hills or an undulating plain, red gravelly soil. Here

I collect no. 15, 275, almost the only late summer plant on it, the rest of the vegetation being the dry summer state of the annual spring vegetation.

No. 15, 275. *Hemizonia fitchii* Gray (Tehama Co.) Corning. Sept. 27.

No. 15, 276. *Cyperus* (Glenn Co.) Orland.

No. 15, 277. *Calycadenia multiglandulosa* DC. ssp. *bicolor* (Greene) Keck. Rays yellow,

broad, deeply divided into 3 lobes. Rays 3. Red Bluff, dry gravelly hills. Sept. 27.

No. 15, 278. *Trichostema lanceolatum* Bth. Sept. 27. With 15, 277.

- At Orland, where I stopped last night, Sept. 26, hospitality was extended me at the ranch of Mr. Guy Smith. He comes

with me on the trip to Lassen Peak. We cross the Sacramento at Red Bluff, the river always a fine stream, and even this late in the year of a dry year carrying a substantial flood of water. On the edge of the foothills, in a gravelly stream bed, perhaps 3 miles from Red Bluff we stop and collect:

- No. 15, 279. *Minutanthus pilosa* Greene. Corolla narrow, yellow of a straw-color tone, the limb very narrow, inconspicuously bilabiate, because the lobes are equal and the bilabiation does not appear so. It is the position or "set" of the lobes that makes the bilabiation, not differences

Sept. 27, 1929; 800 ft.

in size of the lips. Note that one of the fragments in the sheet has two "flowers" in one calyx, the calyx lobes in this case being multiplied. This is an interesting case of teratology. Red Bluff.

- No. 15, 279a. *Euphorbia ocellata* D. & H. var. *sulfurea* Jepson. Prostrate. Gravelly stream bed. Red Bluff.

- No. 15, 280. *Lagophylla ramosissima* Nutt. One plant divided into 2 sheets. Gravelly creek bed. Red Bluff.

- No. 15, 281. *Eriogonum vimineum* Gravelly creek bed, Red Bluff. Plants on the whole larger than spm. taken, that is, twice as tall, 3 times as broad.

- We run northeasterly to Dale's road station, leave the main road to Chester here and turn left, going northwesterly or northeasterly over the boulder-strewn plains that lie above the stream bottoms or valleys that dissect them east and west. These rocky plains are fairly level in general but rather thickly strewn with fairly uniform type of igneous boulder about $1\frac{1}{2}$ to 3 ft. in diameter. These plains bear no trees, except rarely or along their edges. We cross one of the plains, go down into Payne Creek, climb out of it where there is a school and cross another one northeasterly. We

then begin to climb gradually into the foothills. Near Manton, in a wet meadow lying by an irrigation ditch over a flat, the following are collected:

No. 15,282. *Eleocharis*

This forms the dominant species in the meadow. Over a considerable proportion of the meadow it is "pure". The clumps of no. 15,186, which are scattered over the "pure" stand referred to, are conspicuous because of their form and larger size.

No. 15,283. *Lemna*

In irrigation ditch.

No. 15,284. *Panicum capillare* L.
(det. Beecher Crampton, Nov. 1975)

This grass forms conspicuous clumps here and there over the general stand of no. 15,182.

No. 15,285. *Bidens*

Edge of irrigation
ditch.

No. 15,286. *Cyperus*

See note on

the occurrence of this sub no. 15,182.

No. 15,287. *Hypericum anagalloides* c. & s.
^{wet mtn.}

- we climb steadily on through
the Sierra Nevada forest of
Pinus ponderosa, *Abies concolor*,
Quercus Kelloggii, *Libocedrus*
decurrens on up to Viola
road station. Here I get a
fire permit from the Forest
Service ranger. We camp the
night here. Dry calm starry
night but quite cold the
next morning. - Then we
drive on easterly and turn
off the main road, to the
right, to Manzanita Lake.

Lassen Peak

No. 15,288. *Eriogonum umbellatum*
var. *polyanthum* dry rocky hill slope

No. 15,289. *Monardella odoratissima*
Bth. dry rocky hill slope.

No. 15,290. *Ribes nevadense* Kell.

By living stream

No. 15,291. *Senecio triangularis* Hook.
Moist bank of stream

No. 15,292. *Carex*.
Swale in good
soil.

No. 15,293. *Alnus tenuifolia* Nutt.
Living stream.

No. 15,294. *Salix scouleriana* Barr.
Living stream.

No. 15,295. *Pentstemon newberryi* Gray.
Rocky swale in good soil.

No. 15,296. *Chrysothamnus bloomeri*
(Gray) Greene. Dry slopes in loose
soil.

No. 15, 297. *Ceanothus velutinus*

Dough Brush fields below Manzanita Lake.

No. 15, 298. *Castanopsis sempervirens* Kell. with 15, 197.

No. 15, 299. *Chrysothamnus parryi* Greene
var. *latior* (Hall) ^{Tepson} This composite grew
in little "opens" in the brush
fields several miles below
Manzanita Lake.

No. 15, 300. *Muhlenbergia filiformis* (Thurb.)
(Det. Beecher Crampton, Nev. 1975) Rydb.

This grass grew in
dry soil near Manzanita
Lake.

- After a somewhat brief stop at
Manzanita Lake we went on
up, up through the brush
fields (*Ceanothus velutinus*,
Arctostaphylos patula, *Castanop-*
sis sempervirens) to the

head of Manzanita Creek proper,
one may say, the cañon being
closed by a cliff and the stream
coming down over talus, steep,
to the right. Perhaps 300 yds.
below the cliffs we made camp
in a Red Fir and Silver Pine
grove, at the end of the
wagon trail.

Along the stream are moist
meadows and moist spots
here and there on the talus
up to the foot of the cliffs. These
places furnished botanizing and
here, at base of the Laramie Peak
cone on the nw. side, we collected
the following:

No. 15, 301. *Sagina saginoides* (L.) Karst. var.
hesperia Fern.

This *caryophyll* grows in
little tufts on dry ground which
has been earlier flooded by a

surface stream. That is to say it is a sandy-gravelly bed where water has flown earlier in the season. The plants are indubitably perennial, some of the spms. clearly showing the basal portion of shoots of a year ago. ^{persistent}

No. 15,301a. *Juncus drummondii* E. Mex.
On talus.

No. 15,302. *Salix*

See 15,305. ♂ 5 ft. h. By rivulet.

No. 15,303. *Carex*.

Talus.

No. 15,304. *Veratrum californicum*
Dw. mdw.

No. 15,305. *Salix*

See 15,312. ♀ of 15,302.

No. 15,306. *Glyceria erecta* Hitchc.
(det. Beecher Crampton, Nov. 13, 1975)
This grass grew

on the talus.

No. 15,307. *Juncus orthophyllus*

Talus.

No. 15,308. *Carex*

Talus

No. 15,309. *Luzula subcongesta*

Talus

No. 15,310. *Juncus mertensianus* Bong.
ssp. *mertensianus*

Talus.

No. 15,311. *Carex*

Talus.

No. 15,312. *Salix*

This willow, 3 or 4

ft. h. bush, dark green leaves, prominent stipules, red. brown branchlets. It is less common than no. 15,302 which is taller, has yellowish foliage, yellowish branchlets.

No. 15,313. *Athyrium alpestre*

This fern is very

conspicuous on the rocky talus at foot of vertical cliffs, head of Manzanita Creek. The stools are scattered here and there and form a very considerable colony. The stools are 2 to 3 feet broad and $1\frac{1}{2}$ to 2 feet high.

No. 15, 314. *Carex*

8000 ft. On talus.

No. 15, 315. *Cystopteris*

8000 ft. This fern grew in rock clefts on the cliffs.

No. 15, 316. *Arctostaphylos nevadensis* Gray. This species forms broad colonies, thickly and good-looking, on the floor of the very open Red Fir and Silver Pine forest that covers the ridge extending up to the base of

the volcanic cone, to the left of camp. ("Right" and "left" in these pages mean as one looks up stream or faces the mountain.) The forest is very open and the colonies adorn the "opens" on the slope. Three particular specimens were collected on the cross ridge which closes the head of the canon of Manzanita Creek.

No. 15, 317. *Phyllodoce breweri* Hel.

Sept. 29. On the ridge above camp forested with Red Fir and Silver Pine 8400 ft.

No. 15, 318. *Pentstemon merzianii*

On ridge above camp, forested with *Tsuga mertensiana*, a station higher up than the preceding. 8600 ft. Also at about 9000 or 9300 ft. Sept. 29.

No. 15,319. *Carex*On cone, at foot, of
Lassen Peak. 8700 ft.No. 15,320. *Carex*[Lost] At foot of Lassen
Cone, that is at about upper
limits of Canadian zone (Red
Fir). 8700 ft.No. 15,321. *Carex*8700 ft. At foot of Lassen
Peak cone, near station for 15,320.No. 15,322. *Carex*,

with 15,321.

No. 15,323. *Eriogonum marifolium*

c. 8800 ft. White-bark Pine belt.

No. 15,324. *Carex*

with 15,323.

No. 15,325. *Saxifraga tolmiei* Torr.
var. *ladifolia* (Greene) Engelm. + J. Maccl.
& Gray. c. 8800 ft. White-bark Pinebelt. With no. 15,323, the highest
(altitudinally) herbs collected.No. 15,326. *Pinus albicaulis* Engelm.Forms colonies on two ridges,
nw. slope of the Lassen Peak
cone. 8800 to 9600 ft.

- We started up the mountain at
8⁰⁰ o'clock from our camp (see
p. 11 ante), going up the cañon
bed to the timber foot, then
zig-zagging on a good clear
trail which ascends the ridge
to the left of camp. This ridge
is beautifully forested with
Abies magnifica and *Pinus*
muricata with *Arctostaphylos*
manzanita forming lovely
green mats in the "opens"
- broad clean carpets very
good to look at. Higher up
Tsuga mertensiana comes in
and extends to the base of

the cone proper we may say, or a little above it. There is more or less herbaceous vegetation in this forest zone (Canadian) and we collect nos. 15,317 to 15,318. About where the forest timber ends we collect on the lower part of the ^{volcanic} cone nos. 15,319 to 15,322. In the white-bark Pine belt (Hudsonian) we get nos. 15,323 to 15,325. The highest herb noticed is the Silver Lupine (no. 15,329); this is abundant lower down in the Canadian zone forest and lower still in the ^(Red Fir) Jeffrey Pine forest. The only shrub in the white-bark Pine belt is:

- No. 15,327. *Holodiscus* ^{*microphyllus* var.} ~~*tricolor*~~
~~*glaberrimus*~~ ^{*Jefferson* leafy.} Low somewhat crutching shrub. 9300 ft. Cont. p. 19.

No. 15,328. *barex*

Below camp at head of Manzanita Creek.

No. 15,329. *Lupinus ornatus* Dougl. var. ^{*lobus* (C. P. 5m.)} obtus-
 9300 ft. See p. 18. With 15,327.

No. 15,330. *Angelica breweri* Gray.

Hill slope, Manzanita Lake.

No. 15,331. *Polygonum amphibium* L. Red fls., Manzanita Lake.

- Cont. from p. 18. We climb on up and leave the white-bark Pine behind.

Higher up still we climb on very rough and lumpy volcanic formation and come out on the edge of the crater. From this point we work our way around to the Geological Survey bench mark on the highest tip of the

peak. Nowhere do I see any vegetation. It is very late in the season to be sure, but if there had been any this year one would find vestiges. Apparently, on all sides of the mountain the alpine and subalpine vegetation has been destroyed. This is all the more significant in that Lassen Peak is the only high summit in California which carried certain peculiar species found only on the volcanic cones of the Cascade Range. The destruction of these species, such as *Draba aureola* Wats. and *Collomia Larsenii* Payson, decimates the bot. flora. (Cont. P. 120) J.S.

A new road has been built in to Lake Helen on the south side of the mountain, which makes the easiest and most direct way up to the summit.

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Northeast we get a fine view of the "desolation area". The mud flow from the volcano flattened out everything on that side. Far down we can see a forest of hemlock cut off low down as if by a scythe; on a ridge to the left of them a few trees are still standing.

We return to our base camp by the same route that we came up. Timber line is about 9500 feet. The ribbon of *Pinus albicarpa* on ^{each of} the two ridges on the nw. slope is most interesting. This species was not seen on any other side of the mountain. The trees are prostrate or nearly; I note them 10 or 12 to 16 feet long, much curved and contorted as lying along the ground, the stems

sometimes bent nearly into a circle, the diameters being $\frac{1}{2}$ to 2 feet. The "tables" of foliage are 3 to 6 feet high. I notice one erect tree 16 feet high.

Tsuga mertensiana comes in at 8800 feet (as we descend); fine colonies of it, young ones, old ones.

Alpine

Below the Hemlock we have groves of *Abies magnifica* and *Tsuga mertensiana* mixed. Scattered clusters of each on the slope.

I notice one clump of the Red Fir, two of the trees sickening and dying in the top.

At about 6 feet up the bark has been ripped off for seven feet, on one tree, $1\frac{1}{2}$ feet on another. Other trees have scars $1\frac{1}{2}$ to 2 feet across. All this the result

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of avalanches of ice and snow carrying boulders down hill.

We pass the night at our old camp. Ice forms during the night. Next morning we return to Maryanita Lake. Here is the Loomis Museum, a granite building housing a collection of photographs of Lassen Peak erupting, some animal habitats and various curiosae, including a "diploma", showing that Loomis studied at a phrenology school when young! Loomis settled at Viola in 1875, says Guy Smith, ran a sawmill and a hotel.

The great brush fields above Viola are interesting — uniform island of perhaps 15,000 acres, maybe more: *Ceanothus velutinus*; *Arctostaphylos patula*; *Castanopsis sempervirens*.

The evidence that this was once forested is abundant. Huge down logs still to be seen in the area; down trees; burned stumps; occasional standing *Pinus ponderosa* trees, the form that of trees grown in a forest stand, not that of an isolated tree.

In so far as the old stems of these shrubs turn down to the ground in successive years, the fire hazard is increased.

I saw no reproduction in this area. Up ^{forest} near Mamzanita Lake, in a little swale that was a bit moist I saw young *Pinus ponderosa* and *Abies concolor* - half-an-acre maybe. Cont. p. 36.

On a little flat in the brush-field, moist swale, I stop to examine a cluster of *Prunus emarginata* individuals. They occur in clumps. Since the trees stand so closely together in the clumps no trunk can be strictly erect; all lean more or less. One tree is 19 feet high with a trunk 23 inches in circ. at 1 ft. Another trunk was essentially the same diameter.

A little ways - 2 miles below this station, we run into a Douglas Fir - Yellow Pine - Incense Cedar - White Fir forest - large trees in a dense stand with clean forest floor.

- Just below Manton there is a rather narrow but very distinct zone of *Quercus wislizenii* scrub. This scrub is very dense, spiny-leaved, 10 to 20 ft. high, associated with *Pinus sabiniana*, *Umbellularia californica*, *Ceanothus cuneatus* and a little *integerrimus*. Here I collect:

No. 15,332. *Eremocarpus setigerus* Benth. c. 1400 ft.

No. 15,333. *Solidago* with 15,332.

No. 15,334. *Quercus douglasii* H. & A. c. 1300 ft.

The above numbers and also no. 15,336 were collected above the school which stands near the bridge over ^{South Fork} Battle Creek. The nearest station marked on map is Macum, perhaps 4 miles up road. Cont. bottom p. 27.

- Just above Manton, a few hundred yards, my companion notices a fine oak tree loaded with acorns and wishes to know what it is. I stop the car and we go back. It is *Quercus chrysolepis* with remarkably fine acorns. The tree is loaded! No. 15,335. *Quercus chrysolepis* ^{Liebm.} 2500 ft.

- We run on below Manton and collect the numbers posted on page 26 ante. Also:

No. 15,336. *Quercus douglasii* H. & A. Remarkably large acorns from a thrifty tree. c. 1200 ft.

- *Asclepias mexicana* Cav. Manton.

- Cont. from bottom of p. 26. This name I have from Denny's County Map of Tehama Co.

- From the crossing of Payne Creek we run out over the rubble plain. Within about 2 or 3 miles of Dale's road station we notice Junipers by the road:

No. 15, 337. *Juniperus*

Two very large trees, side by side, one = 7 ft. in circ. at 3 ft., the other 7 ft. 3 in. at 3 ft. Nearly the same height, 40 and 42 feet.

No. 15, 338. *Aster exilis* Ell.

This asteroid plant grows in a moist spot near Orland.

No. 15, 339. *Lactuca serriola*

Near Orland.

Ligules pale clear yellow.

No. 15, 340. *Bidens*

With 15, 338.

This and no. 15, 338 grew remarkably up to 4 ft. h.

No. 15, 341. *Bassia*

This chenopod grows widely branched from the base with erect main stems 3 to 4 ft. h. Maxwell; alkaline fields, moist.

No. 15, 342. *Cyperus*

Maxwell; alkaline fields, moist.

No. 15, 343. *Cyperus difformis* L.
with 15, 342.

No. 15,344. *Leptochloa fascicularis* (Lam.)
(det. Beecher Crampden, Nov. 13, 1935) A. Gray

This grass grew in
the moist alkaline fields
with 15,342.

No. 15,345. *Echinochloa*

This grass grew
with 15,342.

No. 15,346. *Helianthus*

Zamora

- Lassen Peak. - Timber line (*Pinus
albicaulis*), is about 9500 ft. As
we descend the Alpine Hemlock,
Tsuga mertensiana, comes in
at about 8900 feet and goes
out east about 8300 feet.

see p. 21 ante.

- *Fremontia californica* Torr. In
Nov. 1914 while making a bot-
anical reconnaissance of
Redwood Peak with a party of
Forest Botany students we found
what seemed a curious shrub for
its situation, *Fremontia californica*.
We discovered this while working
through dense brush on a rocky out-
cropping $\frac{1}{4}$ mile east of the Peak.
This species has its greatest devel-
opment in the southern Sierra
Nevada. No report of its occur-
rence in the Mt. Diablo or Mt.
Hamilton ranges has ever
caught my notice. -

- Dr. H. J. Webber of the Riverside
 Citrus station calls today. He
 queries the correctness of the
 Forest Service policy re. fire
 in the forest, and asked
 my opinion. We agreed
 that it was a problem
 having many ramifications
 as to water and erosion,
 but that no conclusive
 physiological and soil
 study had yet been made.
 Apparently this is a
 possibility: That the Forest
 Service is on the wrong
 track, because of preced-
 ent and authority, based
 on conditions elsewhere—
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- Mrs. Edith Murphy of Corvallis
 calls today: She says that
 she has found *Fraxina speciosa*
 near Buck Rock, nr. Mendocino
 Co. (not far from Castle Peak),
 det. by Alice Eastwood. Also
Quercus sadleriana near
 Cove Camp, North Fork of Middle
 Fork El River; *Cupressus*
lawsoniana at Howard Lake
 near Fly Creek; *Penstemon*
purpureus on Black Rock trail,
 (Osborne to Buck Rock).
 She says that the Henley
 Oak at Henley Ranch,
 Round Valley, has been
 measured by triangulation
 and is 175 feet high!
Islands of Pimus tuber-
culata grow on the slopes
 west of Henley Ranch. The

Heuley Ranch is now in the possession of the Round Valley Land Company with offices in San Francisco. (Mr. Winter, = foreman.)

Mrs. Murphy is an enthusiastic field person who enjoys tremendously the back Mendocino country. She collects and puts her spms. before Miss Eastwood.

She is scatter-brained in her talk, jumping rapidly and abruptly from one thing to another. She wanted to tell me about all her wonderful discoveries, but I had to work to pin her down to specific

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details as to where she got her things. She would have preferred to tell just a little, give a hint, and then jump, "Oh, yes," to something else. She brought no specimens, so all her findings must be checked up. The names for stations, as indicated above, can be found on the national forest map of the California Forest. Mrs. Murphy is breezy: she says she "used up" the Manual copy at the Los Angeles library by referring to it; that she possesses the Trees of Cal. and knows it backward and forward. — Oct. 16, 1929. (Cont. p. 36.)

— Cont. from vol. 49, p. 200. Dudley met Baker one day in the Quad and suddenly and abruptly said: Professor Campbell I

cannot abide. That man is the cross of my life." Copeland remarks that this was a very extraordinary outburst, especially since he did not know Baker very well.

- Cont. from p. 35. Mrs. Murphy pronounces it Ace Bean trail, but says the man's name was Asa Bean, but everybody says Ace.

- Cont. from p. 24. The brush fields above the green of the shrubs show a white zone of dead branches, the relic of a fire not so many years ago. See photos. The forest burnt out is mainly *Pinus ponderosa* and *Abies concolor*.

On the northwest side of Mt. Lassen I see no *Pinus contorta* var. *murrayana*; only

a few trees of *Populus trichocarpa* J. + G.

The shrubs at higher altitudes than these brush fields lay their old branches down on the ground as new shoots replace them in center. These brush field shrubs seem all to have very stiff rigid branches.

= Height of Eucalyptus. In S. F. Chronicle is an article upon a tall Eucalypt in Australia said to be 435 feet high, as measured by tape line. See issue of Dec. 18, 1887. See also Eucalyptus letter file (Cult. trees.) See also cover in daily file.

Oct. 26, 1929No. 15,347. *Isocoma*

Pallego Hills, on the thin soil covering the rock outcrops.

 No. 15,348. *Ranunculus*

In a pool near Cordelia

See vol. 51, p. 147.

 - *Alhagi camelorum* Fisch.

H.M. Hall says (Nov. 1914) that this is spontaneous at Indio, Colorado Desert.

- *Sanguisorba minor* Scop. (*Noterium Sanguisorba* L.). On the chaparral slopes east of St. Helena this is spontaneous and seems established. No published report of its occurrence in California hitherto, comes to mind. It is likely to occur rather widely. cf. Jipson 3007.

- C. B. Wolf, a tall and quite young chap from Stanford, called at my laboratory to day to see *Rhamnus californica* varietal types. He is monographing New World *Rhamnus*.

- Jan 6, 1930.

- There was no rain at all this Nov., 1929, "the driest on record" says Nov. 1890, when there was likewise no rain. - Meteorological Synopsis, Berkeley, U.C., Sept. Geog. (vol. 18, no. 5).

- Professor A. W. Sampson, Division of Forestry, College of Agriculture, said this morning at breakfast at the Faculty Club: "I was present at a meeting of the Washington Botanical Club when Greene presided. He spoke of ten leading systematists of the world, setting himself down as the first. An incident which illustrated his egotism. On another occasion at the National Herbarium I showed him a plant which I did not know. He said: I myself do not know this plant. I have never seen it before. It is, therefore, new."

It may be Greene was playing with him, for Greene had a keen sense of humor and subtle railery. - Jan. 9, 1929.

- Eastwoodia. The omission of this from my Manual was an oversight. It was not possible to cover all the scattered literature, nor could it all be appraised in one man's life time. But I specially regret this omission because Miss Eastwood will regard it as an intentional one. The description and figure in Zoe had been under my eye long ago a number of times of course. I notice that Mr. T. Brandegee, in citing collectors and localities for Eastwoodia elegans does not give, and I am sure he could not give, any exact date, any exact locality for his own collection of it.

- Fedde in Just Bot. Jahresb. 33¹¹: 614 (1906) transfers all newly published Lithophragma

species to *Tellina* without any regard and doubtless without any thought for their validity. He does this sort of thing on a rather large scale in this periodical. I consider the practice a degradation of real systematic technique. Certain technical practices are necessary, but by botanists working ^{on a} high level, such matters of technique are subordinated to the real elements of research. Of course Hedde is only one of many who follow this game.

— Mrs. Joseph Clemens has been at the Herbarium for a few days. Just in from, I think, Sumatra, where she has been collecting for E. D. Merrill and others. — About Jan. 30.

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— C. L. Hill, U. S. Forest Service, says: I do not myself approve the punitive tactics of the Federal Trade Commission. They got after Philippine firms for marketing certain ^{native} species as mahogany, proposing to limit the name to the product of *Swietenia* (of *Meliaceae*). But this practice grew up ^{in the Philippines} before there was any thought of competition. The natives knew nothing of the botanical character of *Swietenia*. They went wholly on the wood — a reddish streaked wood which looked like mahogany, which had the characteristics of mahogany, which customers welcomed as mahogany. There was in this no thought of conspiracy or fraud. So in California men cut up the *Pinus ponderosa* in its area of best development and on account of its soft smooth working they called it white pine when marketing it. The wood is extremely different from the

Yellow Pine of the South and customers who wished a certain product would have none of it under the name Yellow Pine. That connotes characteristics to them undesirable. So 90% of the pine used in the Mississippi Valley is California White Pine. Now this ^{White Pine context is a} matter is not being settled on its merits - it is an attempt ^{that} by ^{Eastern White Pine} rivals to use the Federal Trade Commission to eliminate competition.

In the case of Mahogany, the firms marketing true mahogany wanted to market an African tree as mahogany. Besides there are Swietenias that are true mahoganies botanically but not industrially, not technologically. - Feb. 11, 1930

- Dr. P. B. Kennedy died suddenly Jan. 18, 1930. He was being operated upon for cancer of the stomach.

- Waller Guilford, Professor of Forestry, is pleased to know that I approve the name ^{California} White Pine for *Pinus ponderosa* lumber. He points out the usage goes back a long way; that it is similar to the beginning of a trail, its continued and uninterrupted use, the habit of following over a certain path - gives the user a right, an easement, a prescriptive claim. He took up fully my intention that trade names do not run parallel to botanical classification; that in agriculture, for example, the trade names are often wholly misleading as to botanical relationship. He also said that the Supreme Court of the U.S. had ^{rendered} decision that Hard Wood might be used as a trade name for any broad-leaved tree. The broad leaf trees, regardless of whether they are oaks, cottonwoods or catalpas are technically in the trade "Hard Wood". This, so far as botanical

classification, is concerned is a joke. I remarked that to make or force all trade names to correspond to the botanical classification would be to disturb seriously certain essential elements of English, as well as every-day as ^{salutary} economic values. Dog's Tooth Violets are sold as such, and are not Violets at all of the Violet family but Lilies! Pine-apples are neither pines nor apples. The oaks of Australia are none of them oaks. The pines of Australia are none of them pines.

— Charter Day, "List of Gifts" as distributed in the Greek Theatre. E. D. Merrill, 67,000* sheets Malay region plants to University Herbarium.

— Tracy 5428, near Karbel. *Ribes menziesii*, stenatological bush.

* This round number indicates that they were not counted. I am doubtful if he gave any such number. And how many did he take away? on leaving for New York?

— P. B. Kennedy, Professor of Agronomy in the College of Agriculture, died on Jan. 18, 1930, as the result of a surgical operation for cancer of the stomach. He had been on the campus a few days ago and appeared in good spirits. The funeral was held at an undertakers parlors on Grove st., Berkeley. There was a good showing of the men from the College of Agriculture but not many others.

— One of the smart things which E. L. Greene did was to recognize that Lindley's colored plate in Botanical Register, t. 1769, was not *Psoralea macrostachya* as labeled. The plate rested on a Douglas plant collected in California and Greene, therefore, named it *P. douglasii*. — W. L. J., Jan. 1931.

— Professor J. H. Faull, Department of Botany, Harvard University, called today. He said: "This is the natural place for a great fungi herbarium. I do not find any real collections in the west. A few things here, a few things there — but no complete series for comparisons. Such a collection is in the highest degree important in the west. It would be of the utmost importance to foresters, to agriculturists, to horticulturists, to mycologists. The place, here, should be staffed for this purpose. It is the natural and central place for such a mycological herbarium."

"Oakes Ames is a personal friend of mine. I value him and look upon him so, because he is a

balance wheel in the Department of Botany at Harvard. Ever since the old men died there has been friction in the Department of Botany. But in the old days Professor Goodale was a balance wheel. I do not know much about the scientific value of his work — but he filled this function. After he died there were elements in opposition, the Gray Herbarium people and Jeffrey, the cryptogamic people, the ^{Ames} Gray Institution. C. S. Sargent of the Arnold Arboretum would have nothing to do with any of them — there was a barbed-wire fence between the Arboretum grounds and the Bussey Institution. As a result the University appropriation for Botany became poorer and poorer. I have never seen anywhere such poor

equipment for plant physiology as I saw in Oesterhult's laboratory in the year when I gave the summer school work before I went to Harvard from Toronto.

(in 1923 I think he said). So, - said: Hall, "Ames has helped to bridge the difficulties in the Dept. when any one of us want anything he stands right behind us. The University took the stand that since the Dept. could not agree, it would disregard their applications for appropriations. [cf. vol. 52, p. 109.]

- An oak growing on Sartoria ranch, Lucas Valley, Marin Co., has carried on its name of Timothy Murphy who lived at San Rafael, settled in Marin Co. in 1828, died 1853. - all acc. to Oakland Tribune, Mar. 9, 1930.

- Ellis Parker Butler, the author of the travesty on the express companies (Pigs is Pigs) - we have all been swindled by having to pay at both ends - has now written a hilarious skit on "Loving the Wild Flowers". It is extremely amusing and I got a lot of fun out of it. There is also a real lesson in it - deriding the idea that is an obsession with our people as to Botany - namely that it must be made easy, that gush and sentiment can replace knowledge of plants. Well, R. M. Holman gave a copy of the skit to H. M. Hall who said in reply: "Being a botanist, I could not see anything funny in this thing; but I turned it on to my wife who laughed at it so much that I have been trying to revise my idea of it."

- March 15, 1930.

- "Occasionally stopping and amusing ourselves by firing the woods on either side [the Sacramento River], and watching the broad flames as they spread and crackled through the underbrush." - in Oct. 1848 ["Six Months in the Gold Mines", by E. J. Buffum, 1850]
- The annual dinner of the California Botanical Society was held Mar. 15, at the Student Union. Prof. Geo. J. Peirce presided as President. After the dinner I kept Peirce all night. Incidentally there came up the matter of W.R. Dudley and I remarked that for a man who was so much a misfit at Stanford, Dudley was being remarkably memorialized by the Dudley Herbarium - more than any other Stanford botanist. Peirce spoke of L. Abrams in relation to Dudley, as

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one of the few men who knew how to get along with Dudley. Abrams was surely and consistently considerate, ^{towards} Dudley quiet, patient, but determined. Never for one moment forgetting Dudley's limitations nor his own ultimate objective. -
Mar. 21, 1930.

Apr. 6,

- On Sunday, Professor P. H. Compton, director of the Botanic Garden near Cape Town in South Africa came to Berkeley with Mrs. Compton. I met them in my car at Berkeley station and we drove to Moraga Bridge to see the fire-type pine, *Pinus torulata*, and the chaparral. He was ^{Prof. Compton,} much struck by the amount of the Australian *Eucalyptus* and especially that it, *E. globulus*, is spontaneous along the Skyline Boulevard. He also was much interested in *Pickeringia montana*, a xerophytic pea which he likened

to Clifortia species (Rosaceae) of the South African plateau, the Karroo. Professor Compton is to drive east across the U.S., with an especial view of examining national and state parks.

- Cont. from vol. 40, p. 6. Different parts of the membrane of the ear are tuned to various pitches in one individual (cf. Sci. Abs. 13, 1934, p. 12 of Supplem.). Different individuals would be tuned differently and might be tuned very differently. So, Miss Saunders had a capacity quite lacking to Major Saunders and to myself. Miss Saunders as a girl did not always respond promptly to her mother's call and child-like would say that she did not hear. Whereupon said Mrs. Saunders: "Oh, but you can hear such a lot of things."

- Left Berkeley at 10 o'clock with Dr. H. deForest of Univ. of S. Calif. in his Packard car. Drove to Altamont Pass, thence to Mountain House road sta. In field behind house (north) collected in fertile spots in a pasture *Tropidocarpum capparidaceum* Greene. It grows, here, under protection of other annual vegetation, *Filarea*, *Capsella bursa-pastoris*, grasses. On one individual may be 3 or 4-valved pods with 3 or 4 placentalae. The pods vary much in shape as seen in cross-section. They are often flattened with the partition below, contrary to partition on upper half. The strictly erect plants seemed to have the most definitely characteristic pods of the *capparidaceum* type. But there

were transition states to diffuse plants bearing less typical pod states.

No. 15, 349. *Tropidocarpum capper-
idenn* Greene. Mountain House. See
p. 55 ante.

No. 15, 350. *Phacelia ciliata* Bth.
Alkaline soil, rare, near
Oxalis ^{var.} sta. (near Firebaugh), w. Fresno
Co.

- From Tracy, where we stopped for
lunch we drove south to Men-
dota, thence by dirt roads to
Coalinga. The great plain between
Mendota and the foot of the
hills, Big Blue Hills north of
Coalinga, is pretty well occu-
pied now by evidences of
agriculture ^{here and there}, the
when I crossed it with ^{fences, etc}
pack train in 1908 it was
open and everywhere without

inhabitants. The greater portion of it is
alkaline flat with a thin *Atriplex*
scum over it. The species is
perhaps *A. torreyi* but is not
determinable at this time. It is
definitely a bush, 1/2 to 2 feet
high, occasionally 3 ft., or in
washes 5 ft. h. Over much
of the plain the association
appears to have suffered from
the drought of the last six
years, many plants appearing
dead.

We drive in to Coalinga
and stop the night. The
further we came southward the
drier appeared the plains and
hills, as if we might expect
little vegetation worth our
botanizing.

Drove southwesterly to the Kettleman Plain and after over-running the shallow bed of Zapato Creek where the road crosses it, we turned in at an opening in the fence line when coming back, on a chance that this is the water course searched for. Traveling by a wagon-trail through the low hills we pass one occupied ranch and finally come to another, two neat cottages in the narrow valley of the creek (Kreyenbarger Ranch). Here we talk with a young man about the plant I am searching for, *Stanfordia californica*, and I show him a picture in my Manual of *Streptanthus celticus*, so closely allied. The father by this time comes up and looking at the cut of *Streptanthus inflatus* on the same

Apr. 12, 1930

page recognized it as "wild Cabbage" which, he said, grew $\frac{1}{4}$ mile above the house on the side of a swale or water-course hollow in the hills. The herbage of this is highly esteemed for greens and is much used by them.

We travel on up the creek which has no proper valley, the gentle hills rising from its banks not making little spurs or vales here and there. As we go on the vegetation becomes better and better, some bees come in and considerable flowering of certain species. *Allium crispum* Greene (no. 15,366) covers certain slopes, it is so abundant. We finally stop going by car, where the cañon turns northerly in a charming vale with a few scattered *Quercus douglasii* Zapato Chino, comes out of a narrow

Left in the main ^{Apr. 12, 1930} range to the west of us. This narrow gorge we follow up. Within three hundred yards after entering it there is a fine display of the pale or whitish. fine Phacelia (no. 15, 372), on the north wall, a longitudinal band lying between two ledges or rock outcrops that come down the hill. This slope between the ledges is composed of a gravelly or rocky soil but is evidently eminently suited to the Phacelia for it makes a nearly pure formation. It is something of a display, to look up at this band of color rising so steeply from the cañon bottom, and framed on the sides by the two rocky ledges that parallel each other. We go on up the cañon (Cont. p. 65).

Apr. 12, 1930, 650 feet, Coalinga.

No. 15, 351. *Lupinus* ^{Fresno Co.} ~~varus~~ *var. Douglasii* var. *menkera* C.P. Sm. Open ground, gentle slope at edge of the foothills, Coalinga, clay soil.

No. 15, 352. *Barria*

This is the species making color spots of gold - but its abundance is not this year sufficient to give character to the landscape in April as so often. On this species I take a beetle*, which is clumsily migrating along the tops of these tiny plants, stopping to feed on a head of pollen.

With 15, 351.

(Flowers, by eating)

* = *Cotalpa usina* Horn.

See letter of E.C. Van Dyke, 4-16-30.

No. 15, 353. *Lestovriacea chilensis* Remy.
Clay soil. With 15, 351.

No. 15, 354. *Pectocarya* ^{*heterocarpa*} *paniculata* A. D. With 15, 351.

No. 15, 355. *Trifolium gracilentum* P. & G. With 15, 351.

No. 15,356. *Phacelia distans* Bth.

Open ground, moist swale near stream.

No. 15,357. *Glaucnactis*

Open sandy ground, flat along creek.

(Discarded, insect damaged)

No. 15,358. *Laysia*

With 15,357. Rays white.

No. 15,359. *Amsinckia tessellata* Gray.

Common on the flats.

Young Kreyenhagen calls it fire weed, not in the sense in which the term is applied to *Epilobium angustifolium* L., but because workers in handling hay, find it burning, stinging, to face and hand.

Eremalche parryi Greene

No. 15,360. *Sidalcea* = *Sphaeralcea*

parryi Jepson. Corollas varying greatly in size, the larger sizes appearing ♂, the smaller ones

♀, but as to size of corolla there seemed to many intergrades.

Sandy ground in flat along stream.

No. 15,361. *Hollisteria lanata*

Clay banks, slopes by water course. Common over 1/4 acre mixed in with other small plants.

Three inner stamens dehiscing before the 6 outer. Extremely inconspicuous are the plants and easily overlooked as being some one of the Inuloid Compositae, such as *Micropus* or *Filago*

No. 15,362. *Mentzelia affinis* Greene

Sandy flat along water course. Corolla golden.

No. 15,363. *Platystemon*

californicus (Pursh).

With 15,362.

See p. 83.

No. 15, 364. *Obronia pogonantha* ^{See p. 83}
Sandy flats, 940 ft.

No. 15, 365. *Thelypodium lasiophyllum* Greene. see p. 70. Sandy flats, 940 ft.

No. 15, 366. *Allium peninsulare* ~~Lehm.~~ ^{Greene?}
~~max. crispum~~ Filaments quite broad, linear-lanceolate. Inner per. segments crisped above, the lower part of the crisped border white, the upper part purple. Ovary crests none. Why not a good species? North slope.

Loamy slopes, very common, glaucous coloring purple several acres of a hillside. c. 1300 ft. Wooded openly.

No. 15, 366a. *Nemophila*

No. 15, 367. *Linanthus parviflorus* ^{L. androsaceus} Greene. Corollas white, fading lavender-tinted. With 15, 366.

No. 15, 368. ^{Microsteris} *Phlox gracilis* Greene.
= *Gilia gracilis* Hook. With 15, 367. [It is my remembrance that the flowers (corollas) in the field were dull

white; dried, they are blue-purple as to limb, yellowish as to throat.

No. 15, 369. *Athyrium pusillum* Greene.
With 15, 366.

No. 15, 370. *Stellaria nitens* Nutt.

This Caryophyll occurred on a moist north slope at about 1400 ft.

No. 15, 371. *Stenotaphrum* ^{sid} *linearifolium* (DC.) Rydb. Frequent on the cañon sides, but not common, nor forming colonies. c. 1500 ft.

[Cont. from p. 60.] Possibly two miles. To the right a lateral cañon opens up, say in $\frac{3}{4}$ mile, a broad regular slope on its ^{west} side covered throughout with *Phacelia* no. 15, 372 (!), the opposite or west side ablaze with *Allium* no. 15, 366, this latter slope a little wooded. The tree species are: [Cont. p. 70].

No. 15,372. *Phacelia hispida* Gray
var. *heliophila* Mch. The habitat of
this species described on p. 60,
ante. 2000 ft.

No. 15,373. *Thysanocarpus curipes*
Hook. On cañon wall in good
soil. c. 2000 ft. Higher up I
saw on the grassy slope a
dense colony of it, forming a
spot 20 ft. long on the gentle
gradient.

No. 15,374. *Poa scabrella* (Thurb.) Benth. ex Vasey
This grass grows in
tufts, scattered here and there, on
somewhat rocky slopes but in good
soil pockets. c. 2000 ft.

No. 15,375. *Sanicula bipinnata* H. & A.
Wooded slope (open) in
good soil. c. 2100 ft.
achilleaeifolia Benth. ssp.

No. 15,376. *Gilia multicaulis* (Bth.)
var. *pedunculata* (Gray) with 15,375.

(Discarded, insect damaged)
No. 15,377. *Coreopsis*

wooded slope.

c. 2100 ft.

No. 15,378. *Lupinus albifrons* Bth.
Bush, broad, 3 ft.

h. Cañon bottom. c. 2100 ft.

No. 15,379. *Lupinus bicolor* Dougl. var.
microphyllus C.P.S. (det. E. Cron). c. 2100 ft.

No. 15,380. *Allium crispum* Greene
(det. R. Bacigalupi 2/16/64)
More luxuriant and
with perianth more deeply colored
than in 15,366. c. 2200 ft.

- *Solanum xanti* Gray. See 15,411.

No. 15,381. *Baccharis viminea* DC.
♂ c. 2200 ft. Stream bottom.

No. 15,382. *Baccharis viminea*
DC. ♀ c. 2200 ft. stream bottom.

No. 15,383. *Linanthus* ^{bicolor}
Greene. c. 2200 ft.

No. 15,384. *Lupinus* ^{*L. densiflorus* var. *microcarpus* 1930} ~~*microcarpus*~~ ^{*densiflorus*} ~~*densiflorus*~~ ¹⁹³⁰
var. *densiflorus* Jepson. Wings pink;

banner white with yellow-tinted center. Steep adobe hillslope, south slope. c. 2000 feet. Forming a semi-pure colony of 2 or 3 acres. Heavy adobe.

No. 15,385. ~~*Hemizonia*~~ *Madia radiata* Kell. On adobe slope, heavy adobe. Rays 8, golden yellow. c. 2000 ft.

No. 15,386. *Stylocine filaginea* Gray. This involid plant grew in heavy soil, c. 2000 ft.

— *Juniperus californica* Wats. Just below the mouth of the Zapato Cañon about 2 miles, on a flat by Zapato Chino Creek, an individual of this species was measured: 31 ft. breadth of crown, 16 ft. high. The "crown" rested on the ground.

12 Apr. '30.

No. 15,387. *Oenothera alyssoides* H. & A. var. *decorticans* Jepson. On a sandy flat

about 1/4 mile nw. of ranch house, Kreyenhagen, on Zapato Chino Creek, 950 ft.

No. 15,388. ^{*Caulanthus*} *Streptanthus inflatus* Greene.

On the talus of a small sandy cliff or little bluff by the side of a now dry branch of Zapato Chino Creek about 1/4 mile nw. of the Kreyenhagen ranch house is a colony of desert candle. It is by far the finest colony I ever saw, only about 25 yards in length but composed of very luxuriant plants, some 2 to 4 1/2 feet!

high. 950 ft. *Plutella maculipennis* (Diamond-back Cabbage Moth) occurs on this species. See H. H. Knifer in litt. 5-13-30.

No. 15,389. *Mentzelia affinis* Greene.

Cor. golden. Sandy flat in creek bottom just under the little bluff described as the station

for 15,388 supra. 945 ft.

12 Apr. '30.

[Cont. from p. 65], *Aesculus californica*,
Pinus sabiniana, *Quercus douglasii*,
Populus Fremontii. The shrubs
 are: *Photinia arbutifolia*, *Artem-
 isia californica*, *Salvia mellifera*,
Eriodictyon tomentosum, *Fraxinus
 dipetala*.

We go back to the ranch (cf. p. 56)
 and I ask young Kreyenhagen the
 name of the creek. He says: "Zapato
 Chino Creek"! The name on the
 map is simply Zapato Creek. The
 name on T. Brandegee's label on ^{this} *Stan-
 fordia californica* specimen is
 Zapato Chino Creek, a locality which
 he gave without county and which
 in that form appears on no map!
 Young Kreyenhagen says that they
 use the herbage of *Thelypodium
 lasiophyllum* for greens. [Cont. p. 80].

* See p. 64 ante.

No. 15,390. *Fraxinus dipetala* H. & A.

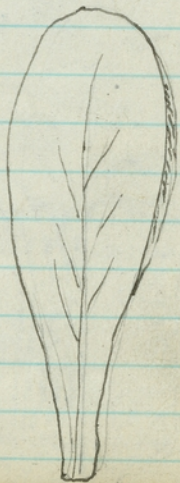
Small trees in this region
 become 12 to 16 feet h. The petals are
 2, sometimes 3. When 3, two of
 the 3 are smaller and lie to one
 side, that is approximate oppo-
 site the other petal. There is a
 suggestion of bilabiation in
 this, of 2 smaller petals forming
 a lower lip as it were, a single
 petal in an upper lip; more es-
 pecially for this reason that
 the normal 2 stamens are
 not increased to 3, when the
 petal number is increased to 3.
 2500 ft.

- While collecting 15,367; 15,368; 15,
 370, near the mouth of Zapato
 Cañon, that is, ^{just} outside of cañon, ^{properly}
 I picked up, while on my
 knees on the ground, [Cont. p. 76]

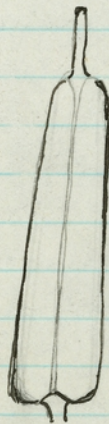
no. 15,391. *Thelypodium Lemmonii*
Greene. Corolla pale lavender,
calyx a deeper lavender. Fil-
ament parts spreading, not at all
streptanthoid. Petals narrowly
obovate, without any ^{distinct} differenti-
ation into claw and limb.
On the whole the flowers look
very *thelypodoid*. Young pods
rather promptly deflexed. Fila-
ments cylindric, or better terete, not
flattened, a little fleshy!

The petal is a
little cupped,
very shallowly.

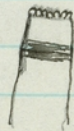
Petal 3 lines long.



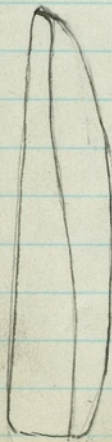
Ovary a little tapering to apex.



- ovary.



stigma.



Sepals decidedly
boat-shaped, at
apex very distinctly
hooded. Sepals
a little shorter
than the petals,
about $\frac{3}{4}$ as long.
Cont. p. 76.

No. 15,392. *Zygadenus*
colonizing an
adobe hill-top, abundant over
three acres.

No. 15,393. *Montia Claytonia*
spathulata Dougl. s. l. Rocky outcrop
or tumbling; shaly stone, dis-
integrating under weathering.
Leaves terete or nearly.

No. 15,394. *Emmenanthe rosea*
(Gray). on shaly rock outcrops
crowning hill.

No. 15,395. *Cryptantha nemoclada*
Greene. With 15,394, but
more on margins of shale pile.

No. 15,396. *Salvia columbariae*
Bth. Hill-slope, below the
rock pile.

No. 15,397. *Trifolium fucatum*
Lindl.

Leaflets with a whitish
irregular narrow band transverse
of the leaflets midway*. Corollas
fading pinkish. In adobe
soil of the heavy adobe type.
How remarkably species are de-
pendent on soil conditions is
shown by this species. One finds
it on adobe soil in the Great
Valley. Here it occurs on this
rather high hill top near the
summit of this Coast Range
ridge on adobe. I did not
notice it elsewhere coming
along through this region.

No. 15,398. *Layia platyglossa* (F. & M.) Gray
ssp. *campestris* Nutt. Rays sulphur-
yellow, with only the tips
white.

* Disappears on drying, tho' so conspic-
uous when green, that is living.

Cont. from bottom p. 73. The flowers have a delicate beauty that is very pleasing. They strike me as being a little gaurioid in general appearance. The anthers on dehiscence develop a narrow recurving "horn" or process. In adobe soil of the heavy type, associated with nos. 15,392; 15,397; 15,402.

[Cont. from p. 71], a single small individual of, perhaps, *Hemizonella*. My hands were full of small animals and in putting the material in the field press, this tiny individual was lost. I had not been able to find another, nor could I on looking further. It is seldom that one fails to find, by proper searching, more than one individual at

[Cont. p. 79.]

- no. 15,399. *Phacelia ciliata* Bth.
On heavy adobe!
- no. 15,400. *Coreopsis bigelovii* (Gray) Hall.* On a shaly tumulus.
- no. 15,401. *Microseris linearifolia* with 15,400.
- no. 15,402. *Antillarua*. Perianth greenish-yellow, finely sprinkled with purple dots inside, the gland at base of segments rather narrow, running up about 4 lines, oblong-lanceolate in shape. Purple cf. p. 82.

* This is a Mohave Desert species recurring here at about the proper alt. I have no record of it from the San Joaquin Valley. Yet *Prosopis juliflora* ^{var. glandulosa} of the Mohave enters the south end of San Joaquin at a much lower altitude than its Mohave habitat.

No. 15, 402. *Baeria*

Alkaline flat.

No. 15, 403. *Plagiobothrys canescens* Bth. Subalkaline flat.No. 15, 404. *Plagiobothrys canescens* Bth. Subalkaline flat.No. 15, 405. *Microseris elegans* Subalkaline flat.No. 15, 406. *Lupinus bicolor* Lindl. Subalkaline flat.No. 15, 407. *Orthocarpus attenuatus* Gray. Subalkaline flat.No. 15, 408. *Layia* ^{*platyglossa* (F. & M.) Gray} _{*ssp. campestris* Koch} Subalkaline flat.No. 15, 409. *Agoseris heterophylla* Subalkaline flat.No. 15, 410. *Atriplex fruticulosa* J. Spach. Subalkaline flat.No. 15, 411. *Solanum xanti* Gray.Zapato Cañon, c. 2200 ft., 12 Apr.
San Fresno Co. (see p. 67).No. 15, 412. *Monolopia*Cholame, Clay bank.
San Luis Obispo Co. 1200 ft.

[Cont. from p. 76.] a station. These persons who bring in a single specimen and so frequently say that there was no more of it are very trying. However, they have a feeling that the statement adds to the value of the specimen as being a rarity. Or they say: "Couldnt find any more". (cf. F.B. 33:95).

Once years ago, when walking down the Furnace Creek Wash in Death Valley I saw a tiny annual, strange and unfamiliar. It was the rare *Phyllogonum luteolum* Cov. I collected it and went on, looking confidently for more. After about 50 yards [Cont. p. 83].

[Cont. from p. 70]. He took us a quarter mile or so above the ranch house to a side fork or swale of the main stream course to see a colony of "wild Cabbage" (cf. no. 15,388) and where some other fine things grew.

We drive back to Coalinga, pass the night at a hotel and go westerly the next morning. Very prominently the Juniper Ridge rises up before us. It presents at first glance, especially at some little distance, the aspect of a naked smooth-sloped or denuded range. But all the slopes bear an extremely thin cover of *Artemisia californica*, the individuals scattered. On occasional slopes dark green scattered spots tell of the presence

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of *Juniperus californica*. These spots are rather conspicuous, partly because so scattered, partly because so dark green. We bear southerly and gradually ascend the northeasterly slope of the north end of the Diablo Range. A mile short of the summit, or about that distance, we pass over a lateral spur which extends easterly about $\frac{1}{4}$ mile with three little but quite unequal hills on it, the smaller being shale tumuli. On the northeasterly slope is adobe and on this adobe is a fine vegetation stand of annuals and perennial herbs: *Zygadenus* no. 15,392, *Trifolium lucatum* no. 15,397, *Thelypodium lemmoni* no. 15,391 making a fine showing with

its lavender racemes, *Layia* no. 15,398, and *Montia* no. 15,393.

And a good many other things.

An *Eummenanthe* (no. 15,394) which is doubtless new, and *Frutillaria* 15,402, its bulbs very deeply buried in the ~~adobe~~ soil, as they have to be.

The summit is 3994 feet and we travel down a fine southwesterly slope to the valley about Parkfield. Thence to Cholame, Paso Robles and home, the last forty miles in the rain, though it had begun to sprinkle a little when we were on the top of the Diablo Range.

[Cont. from p. 79] it suddenly struck me that I was not finding any more of a plant that is one of the rarest in the world. So I turned back, fearful of losing the spot where it grew, and finally found the marks of my botanical pick where I had lifted the plant. Thereupon I erected a little marker pile of stones and began to cast about the marker or monument in ever-widening circles. Though I searched the locality carefully persistence did not reward me with another individual. cf. F. B. 33:95.

- Nos. 15,356 - 15,366 were collected on a tiny flat and gentle swale running into it, at a turn of Zapato River Creek, $\frac{1}{8}$ mile above the Kreyenhagen ranch house. Nos. 15,367 to 15,371 were collected about 3 miles further up the creek.

— called this afternoon Thos. H. Kearney, U. S. Bureau of Plant Industry. He said: "J. B. Norton has found *Pilostyles Thurbri* on *Parosela emoryi* at Superstition Mt. J. B. Norton is now stationed in Imperial Valley at Brawley, [I think Kearney said], as a crop pathologist, perhaps with private interests. He is not any longer with the Bureau.

In the ^{Algodones} Sand Hills of the eastern Colorado Desert I was much interested in seeing *Pholisma arenarium*. M. French Tilman of Banning has studied it in the field and found it mostly on *Coldenia*, also on *Eriogonum*. He says the root contacts are 4 to 5 feet down! How the parasite establishes itself

on the host at that depth is a nice problem in life history.

I myself collected *Pilostyles thurbri* on *Parosela emoryi* on the Arizona side of the Colorado River, on the Gila River, probably about where^g Thurbes first got it. I collected it about April 1. It was in flower then and is not difficult to see when you once find it. The gray plants stick up conspicuously and are common on a given host, but many bushes of the *Parosela emoryi* do not bear them. Apparently the parasite has difficulty in gaining a foothold on certain bushes."

— My student, Miss Frances Payson, has been interviewing Mrs. F. G. Hail in an effort to learn something of the dates of the botanical activities of Mrs. R. M. Austin (her mother) in Modoc Co. Mrs. Hail describes her mother as a progressive strong minded woman. It seems that Mrs. Austin would be away from home a great deal on trips. After supper Mrs. Austin went up to the loft of the house, after her custom, where she had a room fixed up to use as a work place for botany. Here she arranged, labeled, studied her specimens. Meanwhile the children were left below to make their own entertainment. As a little girl she found it dreary and so

one evening she boldly ascended to the loft, and said to her mother, busy with specimens; "Father is away from home; Mother is up here in the loft; we children are all alone before the fire; we might as well have no home." So, Mrs. Austin, contrite, went down below and stayed with her children; but Mrs. Hail felt that all along her mother wanted to be with her plants. And after a day or so she went back to them!!
— April 18, 1930.

— Pinchurst, Fresno Co., as to plants collected by Lulu M. Newton, is near Millwood. I just discovered this. Oakhurst P.O., ^{Madona Co.,} for the other hand, is the old time Fresno

Berkeley, Apr. 1930.

Platz now trying to be aristocratic. This attempt of towns in California to be respectable is very trying. I have had to go through my Fil. Cal. ms. Cruciferae checking up Newton specimens as cited. - Apr. 18,

1930. There is also an Oakhurst, Fresno Co.

- Donald McLain, the engineer whom I met in the White Mts. in 1918, stopped me on the street here in Berkeley. As a map-maker, he put Mt. Jepson on the map of the San Bernardino Mts. and says that the Sierra Club of the south has accepted and used the name. Well, he is very friendly to do this, anyway. - Apr. 24, 1930.

Upper San Benito River, c. 2700 ft. 89

May 5, 1930.

- Left Berkeley Monday morning, May 5, about 11 o'clock. Drove to San Jose, where about 4 miles south near the Catholic Cemetery is a little cluster of low hills. On these ^{once} grew Rattan's *Streptanthus* all-
dies. My attempt to find it here did not get very far. I collected only:
No. 15,413. *Sanicula bipinnatifida* Dougl.
San Jose. Its rootstock I find very deep-seated. It is however necessary to be more explicit. I find a deep-seated rootstock with a terminal tuft of old leaves. From this point a new rootstock ascends to the surface or near it and there forms another terminal bud producing the basal leaves and flowering shoot of the season's growth. Now, how became the old terminal bud so deeply seated? There was nothing to indicate covering by moved soil.

no. 15,414. ^{=Cardaria} *Lepidium draba* (L.) Desv.

Forming a marked band along the edge of barley fields (in the barley) near Paicines. That is to say, a lot of it. San Benito Co. There is

no. 15,415. *Eriogonum argillosum* J. T. Howell

On the up-grade, hill slopes, on the way out of the country, over the ridge to the canon of the San Benito River.

no. 15,416. *Castilleja foliolosa* H. & A.

On the mountain slope, going out of Lorenzo Creek, over the ridge to Hernandez Valley.

no. 15,417. *Achrya chaena mollis*

Hernandez Valley. This is very abundant also on adobe slopes and adobe flats in the hill country hereabouts, whitening many acres here and there over leagues of country.

It is one of the plants which would figure in a list of the 100 most common plants in California.

no. 15,418. *Lupinus*

Hernandez Valley.

Remarkable for its dark blue wings and banner, or rather purple, for its narrow banner, the rather ascending flowers of the close whorl which are more erect, indeed closely appressed to the axis after flowering. But the calyx is the most remarkable of all - there is an upper zone (the calyx lobes) hairy and green, a lower zone (the calyx-tubs) which is semichartaceous or semi-collous in color. The hairs of the upper zone are retrorse; the lower zone is only thinly pubescent with short spreading hairs. On adobe soil. The calyx is accrescent and the pedicels are accrescent. The zonated calyx is remarkable.

- No. 15,419. ~~Flag~~ ^{Microseris} ~~californicus~~ ^{californicus} F. & M.
 Hernandez Valley.
 No. 15,420. *Microseris douglasii* ^{douglasii} ~~douglasii~~
 Hernandez Valley.
 No. 15,421. *Chaetopappa exilis*
 (Gray) Keck This slender composite
 grew in clay soil Hernandez Valley.
 No. 15,422. *Microseris douglasii* ^{douglasii} ~~douglasii~~
 Hernandez Valley.
 No. 15,423. *Ceanothus cuneatus* Nutt.
 Hernandez Valley.
 No. 15,424. *Othocarpus purpurascens*
 Bth. Hernandez Valley.
 No. 15,425. *Pentstemon centranthi-*
^{Valley}
folius Bth. Hernandez, Upper San
 Benito River. It is found in colonies,
 often considerable ones, on mountain
 slopes, but particularly on
 benches along the creek (a river),
 noticeably fine colonies occurring
 on the little flats that one
 finds at a U-turn of the
 stream.

- No. 15,426. *Vicia americana* Muhl. var.
^{linearis} ~~linearis~~ with next. Upper San Benito River.
 No. 15,427. *Platystemon californicus* Benth.
 open lowlying field
 along the river. Upper San Benito River
 No. 15,428. *Ceanothus* ^{leucodermis} ~~leucodermis~~ Greene
^{divaricatus} ~~divaricatus~~
 Nutt. Upper San Benito River,
 fls. blue. Bark white.
 No. 15,429. *Festuca pacifica* Piper
 This grass grew with
 No. 15,427.
 No. 15,430. *Lupinus bicolor* Dougl. var. ^{piper-}
^{smithii} ~~smithii~~ C. P. Sm.
 note manner of drying. With 15,427.
 No. 15,431. *Microseris douglasii* ^{douglasii} ~~douglasii~~
 dominant on the
 adobe hills amongst the blue oaks
 - noticed over hundreds of acres.
 Upper San Benito River.
 No. 15,432. *Baccharis* ^{lepidospartum} ~~lepidospartum~~
^{equinatum} ~~equinatum~~
 on the lower Los Gallos
 Creek, where the cañon opens at
 between the lower hills, there is a
 very broad wash, filled for some
 miles with the shrubs (3 to 7 feet

high) of this species, making a fine woody formation of considerable extent. Photo taken.

No. 15,433. ^{striplex} As one works eastward across the plain of the San Joaquin Valley from Lost Hills, one finds this shrub covering a vast territory. In the region of Semitropic ^{village}, it forms fine stands on the alkaline flat. Near Wasco also. This goes all the way to Tracy, northward, forming originally at least a vast average wherever the soil is alkaline enough to support it.

No. 15,433a. *Eryngium*

Below Semitropic and Wasco.

No. 15,434. *Lupinus densiflorus* Bth. var.

Abundant. ^{Lectus} Tehachapi foothills near Caliente.

No. 15,435. *Astragalus oxyphrys* Gray.
erect clumps 1 to 1½

ft.-h. Tehachapi foothills, near Caliente, that is within 5 or 6 miles.

No. 15,436. *Asclepias californica* Greene.
Tehachapi foothills

- On the evening of May 5 I arrived at the cabin of Daniel Rohrbach, the lion hunter, on Lorenzo Creek. He said: "The country you looked down into southeasterly when crossing the Diablo Range is the home ranch of Bomberschwallbe, Spanish people who have been there a long time and were famous for their running stock, the pure strain, the type that is so hardy, can live on rough feed and never tire, day after days riding. Frame and Roberts are two ranchers that live on the upper waters of Jacalitos Creek."

After stopping all night with this animal trapper, I went on through Hernandez Valley to the Los Gatos Pass, down through the Los Gatos Creek Cañon, stopping in the creek bed on lower part to make a camp fire for a meal, thence to Coalinga, then by the Kettleman plain to Lost Hills, to the plain at Semitropic School where I camped for the night. cont. p. 97.

Mohave train, 15 mi. east, sandy soil
= Muroc (6 mi. n. of)

No. 15,437. *Langloisia matthewsii* (Gray)

No. 15,438. *Lupinus odoratus* Hb.

Corolla indigo Pur,
the banner broad, the very white
center very sharply defined. Bases of
petioles and stems fleshy.

(Discarded, insect damaged)
No. 15,439. *Chaenactis*

Extremely common over large
areas.
No. 15,440. *Cercocarpus californica* (Nutt.)
Barson.

ternatiflora Bth. var.
No. 15,441. *Gilia sinuata* (Dougl.)
Gilia ochroleuca Jones ssp. *ochroleuca*

No. 15,442.

= *Eremalche*
Macroseris exilis (Gray) Greene
No. 15,443. *Sphaeralcea exilis* Jepson.

No. 15,444. *Chorizanthe*
affinis

No. 15,445. (*Haplopappus*
Ericameria)
Cooperi (Gray) ~~Hb.~~ heads with 1 ray or
rayless.

May 7, 1930

c. 2800 ft.

No. 15,446. *Mentzelia albicaulis* Dougl.

No. 15,447. *Amsinckia*

abundant
= *Caulanthus*
No. 15,448. *Streptanthus inflatus*
Greene. nowhere in the desert,

in any year, have I ever seen
this so abundant as here. Its
stems are as frequently simple as
few-branched, so that it has a
very distinctive aspect. For a
good many miles, wherever the
soil requirements were right, it
formed remarkably dense colonies,
dense for the desert. The scene
where these clouds occurred were
remarkable to the eye. Kramer

— Cont. from bottom p. 95. At Wasco, a
new irrigation settlement, I was much
struck by the polar character of
the high school and other school
buildings. Over Tehachapi it was very
windy and very cold. Sleet fell and ice
formed on my wind-shield. At

Mohave I turned easterly towards Barstow. About 15 or 20 miles E, the desert became very flowery. It was quite fine. Arrived at Waterman Ranch and stopped the night. Miss A. L. Waterman said: "I can remember the Indians starting off up the mountains [San Bernardino] through our cañon for piñon time. This is a time of all day feasting for weeks and they looked forward to it with much anticipation. The men rode horses, the women following behind on foot with the great pointed burden basket on the back, children trudging, a fine cavalcade, all going off to the piñon feast, - [the *Pinus monophylla* tree.]. Mr. Herbert Mauson, the foreman, said that in the San Bernardino Valley, as a school boy, he and other boys at the country

school used the nuts of the black walnut [*Juglans californica*] for marbles. These nuts are smooth and nearly round, so smooth at least that the schoolboy would not, does not, notice the slight channels near one end.

The next morning (May 8) I went on to the Van Dyke place near Dagget and called on Miss Mary Beal. Miss Beal was most glad to go on down to Larcie where is good botanizing. We spent the day at Larcie and had a most interesting time on the lava flows and the sand flats. Miss Beal continued her photographing. (Cont. p. 102).

Laric, Mohave Desert, c. 1400 ft.

no. 15,449. *Oenothera*

= *S. emoryi* ssp. *variabilis*

No. 15,450. *Sphaeralcea fendleri* Gray var. *californica* Parish. Cor. copper-red or perhaps lighter, bright terra-cotta. Stems many from base or branching low. Common in one area in sandy flat.*

No. 15,451. *Mentzelia dispersa* Nutt.
Petals yellow.

No. 15,452. *Argemone corymbosa* Greene
This Prickly Poppy is finely spiny. Notice the densely spiny buds (with very slender spines) and the 3 very prominent spines at apex, so that the buds are slightly 3-lobed or 3-horned.

* It has every appearance of being an annual. I lifted more than one plant and examined the root.

San Bernardino, May 8, 1930.

No. 15,453. *Lycium torreyi* Gray.
Berries coral-red, oval, 2 to 2 1/2 lines long. Bushes 4 ft. h and 5 or 6 ft. wide.

No. 15,454. *Charizanthus rigidus* J. G.
On a lava flat, in a far harder situation than most all other plants of this region.

No. 15,455. *Physalis crassifolia* Bth.
Cor. a sort of buck-skin color. Very rocky places, in crevices, often shaded.

No. 15,456. *Cryptantha inaequata* Jtn.

No. 15,457. *Eriogonum thomasi*
"Red Lace" says Miss Mary Beal.

No. 15,458. *Phacelia pedicellata* Gray.
Annual. Cor. lavender-blue. Herbage glutinous-hairy and with a strong heavy odor that is

somewhat noxious. The odor suggested *Datura meteloides*, but by chance a *Datura* plant of this species grew right by and the *Datura* in comparison seemed to have little odor at all. Plants 1 to 1½ ft. h., bushy-branched, in crevices of the lava rocks where somewhat shaded. An insect, a little wasp-like, is associated with it.

No. 15,459. *Oenothera cardiophylla* Torr.
in lava rock crevices.

No. 15,460. *Microrhiza trigonophylla* Dunal. Cor. limb white or dull white, the tube greenish-white. Crevices of lava rocks, more or less shaded.

No. 15,461. *Argemone*

Seedlings of the Prickly Poppy. Their tap roots are something

astounding; ^{in depth} and show clearly that the plant is ^{not} an annual. It may be annual flowering; quite sure it is; that is, once-flowering; but the plant is biennial, maybe triennial.

No. 15,462. *Cucurbita palmata* Wats.

This gourd grew in crevices of the lava rocks.

No. 15,463. *Tidestromia*

erect plant, growing in crevices of the lava rocks. Not yet well in flower, but I suppose it must be *Tidestromia*.

No. 15,464. *Aster abatus* Blake

The Desert Aster is not common in this region.

No. 15,465. ^{= *Cryptantha*} *Eremocarya rupestris* Greene.

This tiny bronze grass on sandy flats - flatlets I may say - in the midst of lava rocks.

No. 15,466. *Argemone corymbosa* Greene
This Prickly Poppy is

very common and makes a great show on the sandy flats.

No. 15,467. *Mentzelia albicaulis* Dougl.
Sandy flats.

No. 15,468. *Cryptantha angustifolia*
(Torr.) Greene. Sandy flats.

No. 15,469. *Coldenia palmeri* Gray.
Perfectly prostrate;
small pale blue tubular corolla.
Perennial! Sandy flats.

No. 15,470. *Oenothera scapoidea* T. & G.
Sandy flats.

No. 15,471. *Achyrocnichia cooperi* T. & G.
Sandy flats.

No. 15,472. *Palafaxia*
Sandy flats.

Plants twice as tall grown here.

No. 15,473. *Oenothera trichocalyx*
Nutt. A large number of plants
on a sandy flat some miles this

(west) side of Laric, between the roadway and the railway chiefly. Here for a distance of about 1/2 mile I examined a large number of plants. A surprising proportion were fasciated, - ribbon wise. This species develops a ^{single} central shoot with a considerable number of laterals from the base in a whorl. This central shoot is unbranched as are the laterals. All the stems ^{normally} are enlarged above, that is, that portion of the stem which forms the axis of the flowering spike. This central axis is the one that is fasciated.

For example I find one plant which is 21 in. high, 9 inches wide on top, that is the "ribbon".

Another unbranched axis is 16 inches wide, 12 inches high!!

No. 15,473a. *Oenothera trichocalyx*
Nutt. cf. note of Oct. 17, 1940 in Jepson Herb

- No. 15,474. *Eriogonum reniforme* Torr. & Griseb.
Sandy flats.
- No. 15,475. *Baileya pleniradiata*
Bushy plants
with hundreds of flowers, 1 1/2 to 2
feet high grow here, globose or
subglobose outline. Sandy flats.*
- (Discarded, insect damaged)
No. 15,476. *Baileya*
- No. 15,477. *Pentstemon albomarginatus* Jones.
Sandy flats.
- No. 15,478. *Stillingia annua* Müll. Arg.
= *S. spinulosa* Torr. Sandy flats.
- No. 15,479. *Parosela mollis* Hel.
Prostrate. Sandy flats.

* One individual is 2 feet 2 in.
high, almost globose in outline,
with innumerable flowers.

- After returning from Laric to Dag-
gett I drove Miss Beal back to the
Van Dyke Ranch. This ^{ranch} is a most re-
markable woody oasis set in the
old river bed. In the center of it ^(the much) the
desert is quite shut out by reason
of the abundant growth. Miss Beal's
cottage sits in a grove near the Van Dyke
house. She invited me to take supper
with her and I consented on the con-
dition that supplies might be taken out
of my car to help out. Which was
done. Soon, in a jiffy, a fire was going
in her cabin, so neat and orderly inside,
and the bitter cold of the desert was
bannished. A savory supper made us con-
tent again. Miss Beal can live only in
the desert, for reasons of health, and is
eagerly going in for botany to give
motion to her desert life. Soon she moves
to Barstow to be with Miss Waterman.

- No. 15,480. *Dysodia cooperi*
Rocky mesa.
- No. 15,481. *Eriogonum nidularium* Cov.
Perhaps *E. nidularium*
Cov. Gravelly flats.
- No. 15,482. *Chorizanthe*
Gravelly mesas.
- No. 15,483. *Coreopsis* (Leptogone)
bipolori (Gray) ^{Hall}
Sandy wash.
- No. 15,484. *Eriophyllum*
Sandy wash. Always
very flat-topped little plants.
- No. 15,485. *Eriogonum pusillum* T. & G.
Sandy mesas.
- No. 15,486. *Cryptantha utahensis* (Gray)
^{sandy} Gravelly slopes ^{greene}
- No. 15,487. *Cryptantha pterocarya* ^{sandy} *greene*
Gravelly slopes
- No. 15,488. *Cryptantha utahensis*
(Gray) Greene. Gravelly sandy slopes.
- No. 15,489. *Phacelia distans* Bth.
= *P. vallis-montae* Cov. pale lavender. Calyx
Voss!!

lobes before anthesis quite long, arching well
above the corolla bud, leaving a free space
between the corolla bud and the summit of
the calyx. Sandy gravelly slopes.

- No. 15,490. *Phacelia distans* Bth.
A more robust form
of 15,489. Growing in same locality.

- No. 15,491. *Syntrichopappus fremontii* Gray
This little composite seemed
rare at this spot. Sandy wash.
- No. 15,492. *Calycosorus Parryi* Gray.
^{most of number gone & taken off from near desert}
^{this was the} This cichoriad has lemon-
^{another + antheria 15492}
yellow ligules. Sandy wash.

- No. 15,493. *Phacelia crenulata* Torr.
Cor. indigo. Blu. Sandy gravelly slope.
- No. 15,494. *Oenothera brevipes* Gray.
Cor. golden yellow. Sandy
wash.
- No. 15,495. *Mentzelia* ^{*tricuspidata* Gray} ~~*multiflora* Gray~~
det. H. J. Thompson
11/14/61 Cor. a itany straw-

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Ord Mountain, Mohave Desert.

color. Sandy wash. See p. 117 seq.
 No. 15,496. *Langloisia punctata* Good-
 ding. The Lilac Sun-

burnets are very charming as
 they lie against the ground
 on the summit of a little hill.
 The plants seemed prostrate, they
 nestled so closely, they are so
 flat-topped, but they are really
 not prostrate, simply very low.
 A sandy gravelly hill top.

No. 15,497. *Eriogonum inflatum*

This formed a colony
 on a sandy-gravelly hillside
 near the Lilac Sunburnets. The
 plants are so filmy as to escape
 casual notice except as a faint
 yellowish green on the slope. But
 when once seen, it is a fairy-
 like assemblage that engages
 and holds the eye in repeated
 and pleasurable observation.

c. 4000 ft

May 9, 1930.

= *Eremathea*

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No. 15,498. *Sphaeralcea rotundifolia* Jepson.

This Desert Mallow in

anthesis has a somewhat globose
 corolla with an opening at top.
 The maroon spots, one to each pet-
 al, ^{large} are beautiful. Sandy-gravelly slope.

No. 15,499. *Phacelia crenulata* R.

Low.

(Discarded, insect damaged)

No. 15,500. *Chaenactis*

Sandy gravelly flats.

= *Caulanthus cooperi* (Wats.) Payson.

No. 15,501. *Thelypodium cooperi* Wats.

Sandy-gravelly slopes.

No. 15,502. *Cryptantha utahensis* (Gray)
 Green.

No. 15,503. *Gilia stellata* Hel.

No. 15,504. *Thelypodium lasiophyllum*
 Green. Sandy gravelly slopes.

No. 15,505. *Mirabilis*

Rocky hillside.

No. 15,506. *Phacelia campanularia*
 Gray.

No. 15,507.

This echinoid was rare here.

No. 15,508. *Lupinus concinnus* Agardh.

Sandy wash. Remarkable for its low-branched habit, its 2 or 3-seeded pods, its dull white banner pink on sides, its wings dull white, purple-pink above. Keel dull white, glabrous. Cont. p. 132 seq.

No. 15,509. *Eriogonum heermanni*

This species is a shrub forming rounded mounds in the wash above the cabins. One bush was 8 ft. broad and 4 ft. high. There was no time to measure it but the figures are conservative. It is of all bushes in the desert the most intricately branched which has at the same time a fairly yielding branch system. It is not really thorny

c. 4000 ft. May 9, 1930

as at least only very weakly so. Occurs in the wash below Sweetwater Spring - the individuals few.

No. 15,510. *Allium*

Panicle white with brown midribs. Gravelly soil near Sweetwater Spring.

No. 15,511. *Forestiera neomexicana* Gray.

The green bushy clump which several miles away indicates the position of Sweetwater Spring is this species. Erect shrubs 5 to 9 ft. h.

No. 15,512. *Eriogonum maculatum*
Sandy flat.

No. 15,513. *Oxytheca perfoliata*
Sandy flat.

No. 15,514. *Langloisia matthewsii* (Gray).
Sandy flat.

- No. 15,515. *Eriogonum nidularium* Cov.
~~*Chrysanthe nidularia*~~
 Sandy flat
 No. 15,516. *Eschscholtzia*
minutiflora Wats. Sandy flat
 No. 15,517. *Lupinus odoratus* Hel.
 Sandy flat
 No. 15,518. *Eriogonum pusillum* T. & G.
 Sandy flat
 No. 15,519. *Atriplex*
 ♂ Bush 3 ft. h.
 Sandy flat
 No. 15,520. *Atriplex*
 ♀ Bush 3 ft. h.
 No. 15,521. *Phacelia*
 Sandy flat

* Cont. from p. 115. I made a trip up
 the wash and cañon to the spring,
 collecting a good many numbers. I
 noted a few of them as Sweet-
 water Spr. See p. 113

- I spent the night at a rough little
 logging house in Daggett. It is,
 however, neat and scrupulously
 clean inside, kept by Mr. and Mrs.
 Van Dorn. Next morning Miss Beal
 (see p. 107) came along with Mrs.
 Sischo of the "Cliff House" (on the
 highway east of Daggett) and we
 went off for a trip to Ord Mountain.
 A Mrs. Huber was also along. There
 was good botanizing (see ^{p. 108,} numbers
 15,480 - 15,521.). We had lunch
 near a group of miners' cabins
 below Sweetwater Spring*. After
 lunch we ranged easterly, passed
 near Aztec Spring and Hill's Well,
 climbed over a little divide to the
 head of the Kane Springs wash.
 The botanizing here is also most
 excellent. In the brief time at
 our disposal the wash was
 far from exhausted. Few stops
 were made. See nos. 15,522 to
 15,541. Cont. p. 119.

* See p. 114.

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Kane Springs Wash, c. 3300 ft.,

Mojave Desert, May 9, 1930

No. 15,522. *Minimus bigelovii* Gray.
Sandy wash.

No. 15,523. *Mirabilis*
Fls. white.

Calyx parted into 4 lobes.

Rocky walls of wash.

No. 15,524. *Mirabilis*
Calyx lavender.

Rocky walls of wash.

No. 15,525. *Oenothera*
Cor. golden yellow.

Sandy wash.

No. 15,526. *Allionia incarnata* L.
This myrtaginaceous
plant trails along the sands of
the wash.

No. 15,527. *Chorizanthe*
Sandy wash.

No. 15,528. *Oenothera refracta* Wats.
Sandy wash.

No. 15,529. *Muhlenbergia confertiflora*
H. & A.
Sandy wash.

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No. 15,530. *Oenothera scapoidea* F. & G.
Sandy wash.

No. 15,531. *Mentzelia ~~gracilis~~* F. & G.
~~var. nitens~~ ^{Green Japan}. Sandy wash.

Fls. very golden yellow and at
once recognizable as different
from the ordinary *Mentzelia* in
the desert (no. 15,495). These are
rather poor specimens, taken by
Miss Beal. We saw, later, fine
specimens, but Mrs. Siechels did not
wish to stop again (her car, driven by
herself).

No. 15,532. *Monoptilon*
Sandy wash.

No. 15,533. *Oenothera scapoidea* F. & G.
Sandy wash.

No. 15,534. *Monoptilon*
Rays lavender.

No. 15,535. *Phacelia pachyphylla*
Gray.
Cor. dark purple.
Apparently rare here.

Kane Springs Wash, Mohave Desert.

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No. 15, 536. *Oxytheca perfoliata*
Sandy wash.

No. 15, 537. *Chorizanthe*
Sandy wash.

No. 15, 538. *Ischscholtzia*
minutiflora Wats. Sandy wash.

No. 15, 539. *Parosela spinosa* Hel.

Seedling of the
Smoke Bush. Notice the brown
glands on the leaves. See branch-
lets from a small (young) bush.
Sandy wash.

No. 15, 540. *Orobancha*
Sandy wash.
Dull purple corolla.

San Bernardino May 8, 1930

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No. 15, 541. *Echinocereus* ~~lewisii~~ ^{*majavensis*}
Parr. This cactus formed

clusters of cylindric bodies. Petals
maroon-red, forming striking flowers
rocky wall above Sweetwater Spring.

- Cont. from p. 115. We drove back
in the dark, after striking the
main highway, westward to Dog-
gett. I stopped again at the
Van Dorn's (and at Doggett
in the morning (May
9) returned on my old track to
Mohave. There was ^{now} more time to
stop on the desert plain. The
day was a superbly beautiful
one, ^{a day} when the desert is at its
best, no wind, a fine coolish
temperature, a warm sun, the
desert areas here and there
developing wonderful gardens
of color, the individual plants
as a whole thrifty or even

luxuriant. It is the kind of a scene that long sticks in the memory. I like best to remember the desert appearing so!

-
- Cont. from p. 20. The eruptions on Lassen Peak occurred in 1914 — at least that was the first year. First eruption: May 30, 1914. B. F. Loomis, Pictorial History of the Lassen Volcano. of Cal. Ranger vol. 9, no. 52, p. 3 (Nov. 18, 1938).

- *Erodium cicutarium*
It is over the entire desert everywhere, mostly as small or even minute plants. In number of individuals it probably outclasses any other species, — everything else.

- *Yucca brevifolia* Zones*. A zone from Kramer to Amargo. Another zone at foot of the low hills east of Mohave — this band of the valley or plain floor stretches north and south.
* better say belts.

- "No. 15,542. *Salsola kali* var. *tenuifolia*
Barstow.
- "No. 15,543. *Gilia latiflora* Gray.
ssp. *latiflora*
Sandy mesa. Hinkley.
- Corolla sky blue. Common.
(Discarded, insect damaged)
- "No. 15,544.

This *eichoriad* grew
in the sandy desert valley at
Hinkley. Frequent.

- "No. 15,545. *Langloisia matthewsii*
(Gray). Sandy valley at
Hinkley. Corolla pink!
- "No. 15,546. (Discarded, insect damaged)

This *eichoriad*
is very showy and abundant
on the desert, its straw-white
disk with lemon-yellow center.
Sandy valleys.

"No. 15,547. *Stephanomeria*
(Discarded, insect damaged)

This *eichoriad* has
bright pink rays. Sandy valleys.

- "No. 15,548. *Eriophyllum*
Sandy flats in
spots destitute of other vege-
tation. Hawes. c. 2300 ft.
- "No. 15,549. *Mertzelia affinis* Greene
Corolla beaten
bright gold. Sandy valleys.
Hawes. Note difference in size of
corolla, different sheets. c. 2300 ft.
- "No. 15,550. *Phacelia fremontii* Torr.
Sandy valleys,
Hawes. c. 2300 ft.
- "No. 15,551. *Franseria dumosa*
Gray ex Torr. Sandy valley,
Hawes. A luxuriantly foliaged
form. c. 2300 ft.
- "No. 15,552. *Malacothrix coulteri*
Poor - discarded. Sandy valley.
Hawes. An uncommon *eichoriad*
right here. c. 2300 ft.
- "No. 15,553. *Eschscholtzia*
glyptosperma Greene
c. 2300 ft. Sandy valley, Hawes.

No. 15,554. *Oenothera alyssoides* H. & A.
var. *decorticans* Jepson. Petals white; calyx

red. Sandy valley, Hawes. c. 2300 ft.

No. 15,555. *Eriogonum nidularium* Cov.

c. 2300 ft. Sandy valley, Hawes.

No. 15,556. *Acaemtopappus*.

sphaerocephalus Gray Sandy valley,
Hawes 14 in. h. woody bush. c. 2300 ft.

No. 15,557. *Eriogonum maculatum* Heller

No. 15,557a. *Eriogonum gracillimum* S. Wats. (nick #15,557) Jimgrey sta.

Sandy swale. c. 2400 ft.

No. 15,558. *Eriogonum gracillimum*

c. 2400 ft. Sandy valley. Jimgrey sta.

No. 15,559. *Charizante* ^{*Oxytheca*} *perfoliata*

c. 2400 ft. Sandy valley.

Jimgrey. Coloring desert red-brown in spots.

No. 15,560. *Phacelia distans* Bth.

Sandy valley,

Jimgrey. c. 2400 ft.

No. 15,561. *Eriogonum trichopes*

c. 2400 ft. Sandy valley, Jimgrey, etc.

No. 15,562. *Eriogonum reniforme* Torr. & Frem.
c. 2400 ft. Sandy valley, Jimgrey.

No. 15,563. *Phelypodium cooperi* (Gray) Payson
= *Caulanthus*
c. 2400 ft. Sandy valley, Jimgrey.

No. 15,564. *Bryptantha circumscriba*
var. *dissecta* McBr.
(H. & A.) Jth. (c. 2400 ft. Remarkable for

its subglobose form and very dense

habit. Sandy valley, Jimgrey. 2400 ft.

No. 15,565. *Hama demissum* Gray.

c. 2400 ft. Jimgrey. Sandy valley.

No. 15,566. *Monoptilon*

c. 2400 ft. Jimgrey. Sandy valley.

No. 15,567. *Glyptopleura setulosa*

This cichoriad with

its straw-color filmy rays, or

ligules rather, occurs in low

sandy spots. Jimgrey. c. 2400 ft.

No. 15,568. *Charizante*

thackeri (Gray) Wats. Sandy ground.

Amargo. c. 2500 ft.

No. 15,569.

This low helminod

grows in lowish spots on the flat,
spots mostly free of other
vegetation except perhaps
similar tufts of *Eriophyllum* no.
15,572. Amargo. c. 2500 ft.
- *Gilia* With 15,571.
See no. 15,087.

"No. 15,570. *Coreopsis californica*
c. 2500 ft. Extremely abun-
dant on sandy mesas, often
coloring wide desert areas.

Amargo. Also yellow slopes e. of Mohave
Town.
= *Langloisia* n.

"No. 15,571. *Gilia matthewsii* Gray.

Sandy mesas, c. 2500 ft. Amargo.
"No. 15,571a. *Gilia* ~~matthewsii~~ *smaller* Dougl. Sandy
mesas. c. 2500 ft. Amargo.

"No. 15,572. *Eriophyllum*
c. 2500 ft. Amargo. Sandy mesa.

"No. 15,573. *Delphinium Parishii* Gray
c. 2500 ft. Amargo. Sandy mesa.
Fls. lavender.

"No. 15,574. *Astragalus lentiginosus*
var. *fremontii* ^{Wats.} c. 2500 ft. Cor. bright pur-
ple. Amargo. Sandy flat.

"No. 15,575. *Astragalus acutirostris*
Wats. Sandy flats,

Amargo. c. 2500 ft.

"No. 15,576. *Mentzelia albicaulis*
Dougl. Amargo. Sandy

flat. c. 2500 ft.

"No. 15,577. *Mentzelia*

Amargo. Sandy flat.

Petals golden yellow. c. 2500 ft.

"No. 15,578. (*Ericaceae* ^{*Haplocephalus*}
Cooperi (Gray) Hall Sandy flats.
Broad bush 8 to 12 in. high, 10 to
14 in. broad, all stems erect.

Amargo. c. 2500 ft.

"No. 15,579. *Eurotia lanata* Moq.

This chenopodiace-
ous plant, an erect bush, is
quite striking at this time.
Sandy flat. Amargo. c. 2500 ft.

"No. 15,580. *Thermacladus*

c. 2500 ft. Amargo. Sandy flat.
Cont. next page.

Nov 15, 581. *Linanthus parryae* Greene.
This polemonioid is

a very striking thing. In the desert, on fertile sandy mesas where grows much vegetation, sandy flats or valleys, there will be spots here and there like tiny playas, tiny lake beds, often rather obscure and very small, but marked by the fact of containing no vegetation except one or two species. This polemonioid sets its showy stars, white and glowing, on such ground, sessile on the very earth are these shining flowers.

- Cont. no. 15,580. The corollas are dull white with the segments tipped with a brown pattern.

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Plants of the tiny Playas.

- My term playa may not be a good ^{one} for the soil areas which I described on page 128 ante. Yet there are such tiny flatlets, a few feet or a few yards square - and particular plants grow on them. Usually tiny plants such as:

No. 15,581.

No. 15,572. *Eriophyllum*

No. 15,580. *Remouladus*

No. 15,569.

No. 15,567.

no. 15,465.

No. 15,582. *Orthocarpus purpurascens*
Bth. var. *ovatus* Amargo. Sandy flat.

(Hel.)
Very deep red bracts and corollas,
the corollas each tipped with three
very sharply defined rich golden
yellow spots. Very striking
when alive.

No. 15,583. *Linanthus bigelovii*
Greene. Amargo. Sandy flat.

No. 15,584. *Layia glandulosa* (Hook.) Wats.
Rays pure white.

Amargo. Sandy flat.

No. 15,585. *Gilia latiflora* Gray.
Very showy and
very abundant. Amargo.
Sandy mesa. Corolla shy-
blue.

No. 15,586. *Malacothrix californica* DC.
var. *glabrata* var. This aichonias,
with its straw-white ligules
and yellow centers to the heads,
is very abundant, and gives

a rich, almost sumptuous coloring,
to considerable areas — that is
an acre or two or several acres at
a time, sometimes more.

No. 15,587. *Astronia*

The pale lavender fls. of
this species bespeak it as very
different from the ordinary species
of the Colorado Desert.

(Discarded, insect damaged)

No. 15,588. *Coreopsis*.

For perhaps ten
miles this species was the
showiest one in many places
and quite a role in other
places played with other showy
things. Amargo, 10 mi. w.

Sandy mesas. Golden yellow
very showy rays. It is in the
area very abundant.

No. 15,589. *Lomatium mohavense*
C. & R.

Sandy mesa.
Amargo, 10 mi. w.

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Amarigo, 10 mi. w. Mohave Desert

c. 2500 B.C.

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no. 15, 540. *Gilia latiflora* Gray, but *Gilia*
tenuiflora (not) *Gilia minor* A. + V. Grant
acutata (Drong) Sandy mts.

No. 15, 591. *Gilia latiflora* Gray.
ssp. Davyi (Mtkn.) A. + V. Grant
- *G. davyi* Mtkn. Sky-blue corolla.

Sandy mesa.

No. 15, 592. *Abronia*

Lavender fls.

Sandy flats.

— Cont. no. 15,508. Upper calyx-
lip 2-parted into spreading lan-
ceolate lobes; lower lip 3-toothed,
the middle tooth smallest; pod
hairy.

no. 15,590 a. Gilia malior

(one specimen different in sheet of H15, 590)

Tehachapi Range, 10 May '30.

Kern T

No. 15, 593. Harporarrhis

linearifolius DC. Bunches, on the
hill slope above Cameron sta.,
2 to 3 ft. h.

No. 15,594. *Mirabilis*

Caliente, luo

miles west. Perianth crimson, long ^{ly},
showy. Clay hillslope. Plants
with numerous flowers. Bushy
plant 2 ft. h., 4 ft. wide.

No. 15, 595. *Eastwoodia elegans*
T. Bdg. This is a bush,

rounded, $1\frac{1}{2}$ to 2 ft. high.
A few individuals
near Bera sta., se. of Bakersfield

No. 15, 596. *Opuntia treleasei* Coulter
Near Bena stn.

covering the dry hills and the
flats along Caliente Creek. (= O.
basilaris var. *treleasei* Towney.

No. 15,597. *Opuntia treleasei* Coul-
ter. Edison sta., ex. of Bakersfield

- No. 15,598. *Langloisia matthewsii* (Gray)
 Laric, May 8.
 No. 15,599. *Ligio pappus*
 with 15,420.

(next no. on pg. 185)

- Cont from p. 173. As I say he talks interestingly and mostly about his own work. He believes thoroughly in the influence of lime in governing the distribution of various species and should how he had shown the fertility of the claims of Cowles and Clements that lime plays no part.

- It was a bit interesting to hear Dr. J. P. Bennett of the Division of Horticulture volunteer the remark this morning at breakfast that he had challenged the papers and announcements made by C. B. Lipman regarding injections into tree trunks. In the first place Lipman had given this matter out as original (-^{as new}), whereas the matter is very old. Bennett made his criticisms at the meeting of the Pacific Division for the Advancement of Science at Reno several years ago. He complains that no support was given him in showing up Lipman, but added: "Well I've done my share anyway."

- I leave Berkeley May 21, 1930, straight to Harvard, come back to New York and sail June 6 for England, debarking as I remember at Southampton, and arriving at New June 16 (see p. 174). I went over on a French liner, but I do not now remember the name. (This note written Jan. 12, 1935.)

* = Rothambeam!

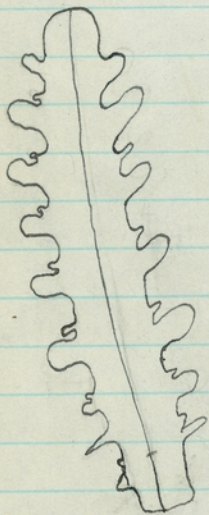
I am now here at the Gray Herbarium for a few days work (cf. p. 144 seq.). Robinson at once took me over his comparatively new establishment — he is very proud of it. The main hall is hung with the portraits of eminent botanists. A large bronze medallion of Asa Gray hangs prominently at the end; on the sides are busts of W. J. Hooker, Robert Brown and two others that I do not recall at the moment. In going about Robinson drew my attention, amongst many other things, to an old print of the Botanic Garden, near which, I think, was a portrait of Nuttall. He told once more the story of the priv-

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ate stairway that Nuttall used for going in and out, and of a device in the house in the Botanic Garden where he lived, by which a servant could put his meals through a trap in the wall without being obliged to enter the room. It is obvious that Robinson likes to play up the personal peculiarities of Nuttall.

Robinson is a little pompous and I should think might be a bit tiresome in time with his somewhat lengthy accounts of personal events. Fernald treats him with thoughtful consideration. Defers to him frequently. Probably this is a matter of every-day "getting along". Fernald is an able and original man, much more powerful in his research work than Robinson and [cont. p. 143]

- *Streptanthus californicus* (Wats.)
Huron, Fresno Co., T. Brandegee 3-24-'93.
Deer Creek, Tulare Co., Congdon 451,
Mar. 9, 1881; betw. Earlimart and Delano,
Tulare Co., ^{P. Eastwood,} 3-26-'74; Bakersfield, Kern
Co., Greene, 4-8-'84. The basal leaves
of the last are singular:



Each pinna has a
small tooth or
pinna above it,
that is on its
upper side.

The leaves of the spms. in general are
^{↑ cauline} cordate-clasping, those of the

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Brandegee specimens (Huron) being
singularly like narrow or oblong-
leaved state of *S. orbiculatus* Greene.

- *Orobancha*. P. A. Munz has
just returned here a loan ^{of the sheets} of this
genus. He names Jepson 6196 (Coyote),
^{distributed as *O. comosa* var. *mellicola*,}
as *O. californica* C. & S. var. *typica*.

My 5157 (Saratoga), as the same.
(distrib. as *O. comosa*)

Cusick's 2669, Squaw Creek, Crook Co.,
which is named *O. comosa* Hook.,
differs det. here, is or seems to
be quite the same as Tahoe plants
regarded by me as good *O. comosa*.
Munz labels this ^{(Cusick) as} *O. californica* var. *cor-
ymbosa* (Rydb.) ined. The Cusick plant
has, however, short corolla-lobes, while
Sukedup's 82, Falcum Valley, Wash.,
labeled as true *O. comosa*, has long
spreading cor. lobes. The two

specimens (Cusick 2669 and Sutsdorf 82) have much the same habit. Corolla and herbage of the former have a more purplish cast, as compared with the yellow cor. and herbage of the latter (Sutsdorf 82). However note that a spec. by Rowena Beans, Tahoe Tavern, Sept. 7, 1914, det. and distributed by me as *O. comosa*, is labeled by Munz as *O. comosa* Hook., *typica*. He makes *Thomas* 3603, Campo, a var. *fendgei* Munz of *O. comosa*. Var. *jepsonii* Munz is represented by Brewer 399. ^(*O. cooperi*) My old mt. 5893 he makes var. *cooperi* of *O. ludoviciana* Nutt. and Coville's 434, Funeral Mts., a var. *latiloba* Munz. In looking over the sheets of *O. ludoviciana* Nutt. from the Missouri River region, I have

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the same general impression, as to aspect and habit, as of our sheets of *O. ludoviciana* at Berkeley. I see no Nuttall type here.

— *Eucnide* wears Parry. Here in Gray Hb. are Cal. stations as follows: Lone Willow Spr., San Bernardino Co., Paris 10181, May 9, 1915; Silver Lake, Mohave Desert, Munz & Keck, 7911, 9 Apr. 1924; Argus Mts., Purpus 5354, 2-3000 ft., Apr.-Sept. 1897.

— *Salvia grohaueri* Benth. "in cañon on clayey soil 3 miles inland from Santa Barbara", Jan. 20, 1917; coll. by Wm. B. Stearns, ^{↑ *comum.*} *Corolla* crimson, 1 inch long. There is also a good sheet of the same under "Flora of California" label, Cal. Acad. Sci., coll. and distrib. by Miss Alice Eastwood. Collected in "Golden Gate Park, San Francisco". Since the

entire label is printed except name of species and date, it may be that Miss Eastwood distributed all exotics collected in the Parks under this label. The Stearns spm., as I see by a letter on the sheet, was in flower Jan. 12, 1917.

- *Eupatorium glandulosum* HBK.
 Strawberry Canyon, south side, Berkeley Hills, J. T. Howell 4714, Apr. 17, 1930, 12 ft. high, climbing through bushes. Det. O. L. Robinson. It is a Mexican species, sometimes cultivated, and is the only ^{one} which has taken to running around very much. See p. 1165 of Bailey, Stand. Cycl. Hort. 5. Pasadena House Parish, Zoe 5: 75 (1900) is the source.

- *Salvia greatai* Bdg. Dos Palmas, 160 ft. below sea-level, May F. Spencer, 3-30-1922. Colorado Desert, Riverside Co.

[Cont. from p. 137] can afford to be tolerant of Robinson [cf. F. B. 44: 160, where Wiegand gives his view of the matter]. In general Fernald does not get along well with people - but I cultivate him for his strong side. The first ^{full} day of my coming to the Herbarium he invited me to luncheon which was very pleasant. At home I am always glad to take waiting to luncheon or dinner - but perhaps there are a great many ^{botanists} come to the Gray Herbarium; for, at the end of luncheon when it was time to pay (as we left the little very nice restaurant) Fernald said: "I will pay this today, and after today you can attend to it yourself." It was obvious that he did not wish the hospitality to be continued as a precedent; so I said: "Oh, let me pay for my own. It is better and then we can do it so every day without any embarrassment." Fernald replied naturally, "All right" [Cont. p. 173.]

- I arrived in Boston on Monday, May 26, and after settling in a hotel, went immediately out to the Gray Herbarium. I went in unannounced. Fernald was sitting in the main hall. Looking up he saw me, rose, came forward curiously and then cried: "Why, Jepson!" I am very glad to see you here." And he was. After an hour or two Robinson returned from luncheon and gave me a good greeting, speculating on the length of time it had been since I was last in Cambridge and running on very pleasantly. After a bit more Fernald joined us and said to Robinson: "Isn't it nice to see Jepson here!"

Dr. Robinson likes to talk, he has many subjects of conversation always ready, and as I am a very good listener and not

prone to talk very much, we make a very good team. The subject of University-government came up one day and Robinson remarked that the Board of Overseers of Harvard are elected from 3 categories; 1. the retired professor who has been very popular with the students, such as Dean Briggs; 2, the alumnus who has "made good" very quickly in a financial way (the J.P. Morgan type, or the son of Morgan), 3, the "professional alumnus", that is to say the shouting professional alumnus who attends all reunions and knows everybody. So, said Robinson, what can you expect from a board of that character? ^[see p. 174b]

Afterwards Fernald told me privately of a strange and yet not strange thing, because it happens so often in American universities. President ^{Abbott Lawrence} Lowell

wanted to call to the biological division of Harvard a man now at the Maine State College. Fernald's father was President of the Maine State College and so Fernald has a special knowledge of the place. He knew this man, whom Lowell had in mind, well and knew him unfit to come to Harvard. So when he was asked by a member of the Board of Overseers for his judgment of the man, he gave it frankly but marked it confidential. The request, indeed, was for a confidential statement. Some 20 other members of the faculty wrote, similarly, adverse letters. Thus Lowell's appointment failed because not confirmed by the Board of Overseers. When Lowell learned why his candidate had not been confirmed he was filled with anger.

This year Fernald was due for a \$1000⁰⁰ rise in salary. That is to say, it was to come, as he expressed it, automatically. It did not come and he made inquiry of the President's Secretary. The President's Secretary said: "No, it has not been made. It is not to be made. The President considers that you are improperly interfering in the matters of University welfare".

This is certainly a high-handed bit of procedure. Now a curious thing happened the day before; curious to me. Dr. Robinson introduced me to a member of the New England Botanical Club, one of the committee in charge of the Club's Herbarium, which is housed in the Gray Herbarium Building. As soon as I was introduced to this man, Hunnswell, I said to myself, under my breath, "Ah, ah, what is the matter with

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you? It has been a long time since I chanced to meet one of your kind, a ^{really} nasty snob. He looked like a sick cat to whom the thought of associating with any one other than sick cats of his own kind was too intolerable to be thought of. He tried to look at me with pitying condescension, that it was impossible for him to speak to me.

And he did not speak one word as I remember, though I was giving my attention to Robinson.

Now this cheap fellow Hummell - he was nothing to look at certainly - is a relative of Lowell and is the President's confidential secretary!! So putting all together I round up with this: Lowell's treatment of Fernald is quite what is to be expected of him. Remember that he is the man who helped

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to prevent giving a fair trial to Sacco and Vanzetti!!

Robinson, it is evident, from even a few days here, likes conversation. He told me today about Oswald Wrigel (of Leipzig) and his faked herbarium sets and showed me the evidence. It seems that Macier's *Flora of Egypt* is ^{also} partly faked and at least not very trustworthy.

Robinson has a very favorable opinion of E. D. Merrill and was evidently Merrill's strong support in getting ^{Merrill's} election to the National Academy of Sciences (See 51:153 seq.)

Robinson expresses his regret that Fernald has no occupation or rather no recreation outside of botany. When he goes into the field Fernald devotes all his time and energy to botanizing. Fernald is married and has children. Robinson says he may

rarely go to the theater - but only because Mrs. Fernald asks him to take the children.

Robinson finds himself in his recreations: he plays tennis and hunts mushrooms (the latter purely as a sport, he says).

Fernald is a friend of Arthur Stanley Pease, now President of Amherst College. Pease is fond of Fernald, and being a Greek scholar, he turns on to Fernald things of interest in botanical history. One day he sent him a note on a postcard, ^{the note reciting} Aristotle's saying as to the influence of lime on plants. Both Coules and Clements recount the idea of lime influencing plant distribution. Fernald was answering them, and this postcard came in very handy.

Robinson when a student at

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Born in Germany had as a fellow American student W. K. Dudley. He found Dudley a charming and companionable fellow and has, from those days, an affectionate remembrance of him. He quoted one of Count Solms saying, that the object of systematic botany should be to give clarity to taxonomic units, not to bring about the ultimate subdivision of such units. It has been demonstrated many times that the units can be subdivided indefinitely. There is no further need of that.

Fernald seemed to me most polite always to Robinson. He addresses him as Dr. Robinson, defers to him, asks his opinion, calls to him to know whether he is ready to join us on our way to a luncheon at the Bakery where we go - and so on. (cf. F.B. 51:124).

Fernald thinks that Rydberg and Small use the American code of

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nomenclature only because Britton forces them to do so. Abrams, says Fernald, sent in his *Arctostaphylos* ms. to Britton (for the N. Am. Flora) under that name, but Britton arbitrarily changed it to *Uva-ursi*. Fernald seems to think Abrams is really in favor of the N. Am. Flora way, but of the not International Code! All this sounds strange to me.

Robinson says the Gray Herbarium has a budget of \$24,000 a year. None of it comes from the University. It is Gray Herbarium foundation funds. Robinson gave me to understand that Fernald has no curatorial duties at the Gray Herbarium. Fernald is Fisher Professor of Natural History in Harvard University, the chair occupied by Asa Gray. What an interesting time I am

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Having while looking up types here! And now I clunk at the thought of the self-satisfied snob Hillebrand! How long it has been since I have seen so rare a specimen!

- Today, June 1, I asked Fernald when another edition of Gray's Manual was to appear. He replied laughingly: "When the flora of California is finished" and then went on seriously to say that the difficulties are very great, that every genus you touch requires monographic revision, that as it is he has not time nor facilities for carrying ^{on} his own book (a critical flora of New England, adjacent Canada, New York - I think he said; at any rate a very full work with detailed keys), that there was no financial reward in the case of Gray's Manual, that the book belonged to Harvard, that they did not propose to give any money for the

preparation of a revision, or let any one have anything from sales; that a revision, in short, would be a charity job. Another difficulty relates to the editorship. Fernald does not want to take in Robinson as co-editor as before - in the last edition. Robinson does not know the northeastern flora, he does not work on it and has no critical knowledge of it. He works says Fernald on the tropical flora of America, and when asked about a native plant, he hems and haws and finally goes off to the herbarium and looks it up in detail as best he can. And yet, I inferred, from the drift of Fernald's talk that Robinson would expect to be the senior editor perhaps. It seems, however, that Fernald is quietly preparing some of the matter in conjunction with Weather.

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- It is plain that Fernald does not regard highly all of the work done by A. S. Hitchcock on the grasses. Fernald is just now digging into Muhlenbergia. It seems that Hitchcock went across the water to Paris and looked up the types - a very necessary job - but did it in a mechanical way, accepting the specimens for what they appeared to be, according to tradition. Hitchcock did not know ^{intimately} the material here at home well enough, thoroughly enough, to go into detail, to put him into the position of doing a really critical job - right on his toes every minute. The result was, as Fernald showed me conclusively, he missed out on the types, has them mixed in accordance with a traditional view of the species.

- June 2, 1930.

- Rino Bacigalupi, who is here studying, had a talk with me today. Said that he had just received a letter from Tom Howell and expressed a somewhat surprised interest that ^{John Thomas} Howell should be slated to work at the California Academy of Sciences Herbarium. Bacigalupi said: "I could never get along with Miss Eastwood".

- The classical sides at Harvard have never been sympathetic towards science, especially the natural sciences, says Fernald. He recalled a debate over a student in the Faculty. A classical professor derided him that he was ignorant, that he knew no Latin. Another professor cleverly begged to correct, that he was not ignorant, because he knew something besides Latin! Some one, a wealthy man at Milton,

June 2, 1930.

gave Harvard, for the promotion of scientific research, the sum of \$5,000,000. It was meant for the natural science ^{use of the} departments. But as soon as the income was available various classical and historical professors suddenly discovered that they were scientific research workers.

- June 2, 1930.

- A sum, two million, is being used by Lowell to build a big biological building ^{Pres.} for Harvard. It was proposed that all the biological departments be included in it, including the Gray Herbarium. At the conference, Robinson being away, Fernald pointed out that while the Gray Herbarium was ready to join in any progressive plan, the duplication of its present quarters, new and well-lighted and arranged, would cost 1/2 million. Doubtless, he said, the Gray

Herbarium could not expect $\frac{1}{4}$ of the $\$10$ million. So rather than move into narrow, restricted poorly lighted quarters, the Gray Herbarium would prefer to remain where it is. So the Gray Herbarium was accused by President Lowell of non-co-operation and refused any support from the biological funds.

Lowell's sole standard for an academic man is: Has he got money? If so he is all right. Brains is a secondary consideration. Lowell appointed a relative, Coolidge, not an astronomer, to be Director of the Harvard Observatory. When it was discovered, the outcry caused him to withdraw the name. Coolidge is in the Dept of Mathematics and by way of hobby looks at the stars from his backyard with a telescope.

June 2, 1930.

- Asa Gray did not know the northeastern flora. He never botanized it, says Fernald. "He made a Manual by compilation, misidentifying American species as European ones, and copying the descriptions from Bentham's Handbook of the British Flora, because it was easier. So it is, that hundreds of species have come down traditionally which are not correct. Besides Gray did not know his local flora; he worked on Rocky Mountain and Mexican plants. The grasses that I am working on now, *Spartinas*, show how things are confused. The whole thing needs to be done over from the bottom, as my work in Newfoundland and Labrador shows." - June 2, 1930.

Gray never botanized in New England (or elsewhere to speak of) and you can not make a good Manual of a region without doing field work yourself.

- *Eremonax mohavensis* Jtn.

The type sheet is ample and consists of a number of individuals. The plants are green but ^{mainly} arochnoid-woolly. Diminutive annuals. I have drawn up a diagnosis, by dissection, for Fl. Cal.

The specimens were collected "in collibus saxosis pr. Barstow" May 1, 1922 by Mary F. Spencer 1949.

There is also a scrap from Fidelity Woodstock and a letter which is wonderfully indefinite as to comparative points: She writes:

"The specimens xx came from the high bench near the east bank of the Mohave River nearly opposite the Santa Fe passenger station at Barstow.

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Cont. from p. 160.

I crossed from the Doggett highway about a mile above the bridge and skirted the plateau that faces the road to some height at Hindley road turn, sloping to the north east. There is a very good trail on the smaller bench through the Lycium Cooperi at the top.

As I went down the wash on the north slope, small patches of the dwarf plant appeared like mesa moss but on examining it I found that it had minute bright yellow composite flowers.

At the base of the north slope where the water settles xxx I found an abundance of it growing with *Glyptoplenura* in fine gravel. xxx blazing stars, xx dwarf

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minimus, There three flowers
bloom at the same time as
Baileya multiradiata that grows
in the cattle range beside the
Mohave River close to the bridge."

F. J. Woodcock,

Jan. 5, 1923.

In another letter she says
that she collected it "at (Ord's
Mountain) Barstow", that it
"grows in sand drift" and
may "be difficult to find
under the shelf on the north
side of the bluff." "When I
showed the specimen to Mrs.
Spencer, she said that she had
never seen or collected it,
that it was an entirely new
one to her and thought it
resembled the *Hemizonia*."

Dated 1-23-23.

F. J. Woodcock."

June 3, 1930.

- I ^{at} had a good many talks with
Dr. ^{Robinson}. He enjoys talking
on, holding the conversational lead
and directing its trend. He got off
a number of amusing scholarly
jokes - but his matter on the
whole did not seem very pro-
gressive when he talked along
lines of systematic botany.
At times I wearied a little of
his conversation - for he seemed
a little pedantic. In particular
he took issue with the idea
that a man should love botany
to succeed ⁱⁿ it. I suspect he
regards such an attitude as a
vulgar. He said that if one were
^{at} interested in method, in devis-
ing new ways of improving
(no matter what the work) his work, this would give
zeal to his work, would guar-
antee interest in it. He illus-

trated the matter by telling how he goes to one of his plant-mounters of a morning, in looking over their work, and suggests that if they handle the binding straps for heavy parts so and so, they will improve the quality of the work and find it a more interesting way.

Well, all this is far from the spirit of my work. On the other hand Fernald loves his botany, he believes in it, he is alive with it - and I noticed that he shows his deep interest in the manner in which he talks. It is a deep conviction, a deep concern, a genuine and loyal feeling.

- Walter Dean, the old-time amateur botanist. See vol. 51, p. 156.

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- Dr. Robinson told me about a chap by the name of Geiser at Austin, Texas, who is writing up biographies of Lindheimer and other early Texan botanists. He received much aid by borrowing the Lindheimer ^{and other} letters (to Gray) from the Gray Herbarium. I think Robinson said his initials are S.W. Geiser. At any rate he is connected with a small Methodist college at Austin.

- President Lowell's "sole standard" (cf. p. 158 ante) is illustrated by another story from Fernald. Oakes Ames who is no real botanist, but has a social name and plenty of money, has been made a professor by Lowell. Ames is the man who does no botanical work himself but hires "slaves", says Fernald, to do it.

for him. There are men who are not self-respecting Botanists, but object types who sell themselves. [I will remember Oakes Ames appearing at the Herbarium at Kew in 1905, his snobbishness and fat-headed conceit.] He had two "slaves" with him there.

- On Saturday evening, May 31, Dr. Robinson took me to the Harvard Club on Commonwealth av. in the Back Bay district to dinner, and to luncheon at his home in Cambridge the next day, where I met again Mrs. Robinson, who is now much of an invalid. (cf. p. 143 at bottom and p. 173)

- Dr. Robinson speaks of it as an advantage in a flora to add brief Economic notes as I have done in the Mid. Cal. Fl. Yes, in a Manual especially because it tends to make a book alive and less dry-dusty, but also that it helps to interest the amateur in Botany.

- Left Boston on the Mayflower express of the New York, New Haven and Hartford. We changed conductors four and probably five times - my ticket being taken up and punched by each. I believe it was six times counting the final taking up. In New York I go to the new Hotel Manager, Wednesday, June 4. Next day I go out to the New York Botanical Garden. Since I had difficulty going right in the subway, as before, I put this down for the benefit of others who have also missed the way. On Seventh-ave line, say from 50th st. and Broadway where I got on, take local to 72nd st. At 72nd st. take express to 149th st. At 149th st. take the Bronx Park line which has Fordham and Bedford stations on it. The other Bronx Park line goes to the Zoological Gardens in Bronx Park and lands one very far from

the Botanical Garden, at the Garden I called immediately upon Dr. E. D. Merrill, the new Director, whom I had known in California. After this call I went to the Herbarium, seeing Dr. M. A. Howe, Dr. P. A. Rydberg, Dr. Barnhart, the Librarian, Mr. Wilson, and finally Dr. J. H. Small, all of whom I had met before. Rydberg looks very aged and can scarcely lift one foot from the floor as he walks. He was desirous of talking to me and I listened as best I could but found him tiresome and ^{rather} childish. Howe inquired about old days in California when he was with us in the Dept. of Botany at Berkeley. Barnhart showed me his card index of botanists. ^{biographical} It is

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especially strong in botanists of America. He has evidently become very keen about this hobby. He makes a great deal, a highly critical discussion and story of small points, such as whether Thos. Howell of Oregon had a middle name. Small showed me the colored plates of his new Iris species from New Orleans. As usual he poked fun, impersonally, at botanists that these species from the city limits or near it should have been "trampled under foot" unrecognized so long. He also showed me the illustrations for his new flora of the Southern States. They are small - about $1\frac{3}{4}$ in. square, and in each case the first species only of a genus is illustrated.

Dr. Merrill invited me to lunch. His office secretary or helper, Mr. —, & Mr. Howe came with us. Merrill told a story re. Professor C. B. Bradley. In speech and in writing, Professor Bradley has always been known as a great precisian, as flawless in grammar, pure in rhetoric, stainless in his choice of words. It seems that one day when with a party of Berkeley men in the Sierras he elected to stay in camp for the day and rest and write. In the late afternoon the cook, a crude uneducated man, came to him and asked if onions should be put in the mulligan. Prof. Bradley replied that it was immaterial to him, though the other members of the party as individuals might have

some predilection. The cook did not understand this language very well, but anyway, he felt that he could guess right and so he put the onions in. When the party returned and attacked supper, one of the number attacked the cook and demanded to know how the onions got in; who said put them in? "Professor Bradley" said the cook. "He said. What the hell do I care! Never mind about those sons-of-bitches out there. Let 'em go to hell"!!!

Professor C. B. Bradley is an excellent amateur botanist and has written and published a number of papers which contain valuable matter relating to the botany of California.

- Dr. N. A. Howe is Vice-Director at the Garden. He has changed little. Rydberg looks like a very old man. One foot, from some infirmity, he cannot lift from the floor - really clear of the floor - but it drags as he walks. His upper teeth do not appear to meet against the lower ones, but project forward, and have become long and fang-like and ^{exceedingly} imperfect. Dr. Britton, who was always a little man, has become rather wizened by age.

The details (morphologic) in Small's cuts (see p. 169 ante) are quite minute for the most part.

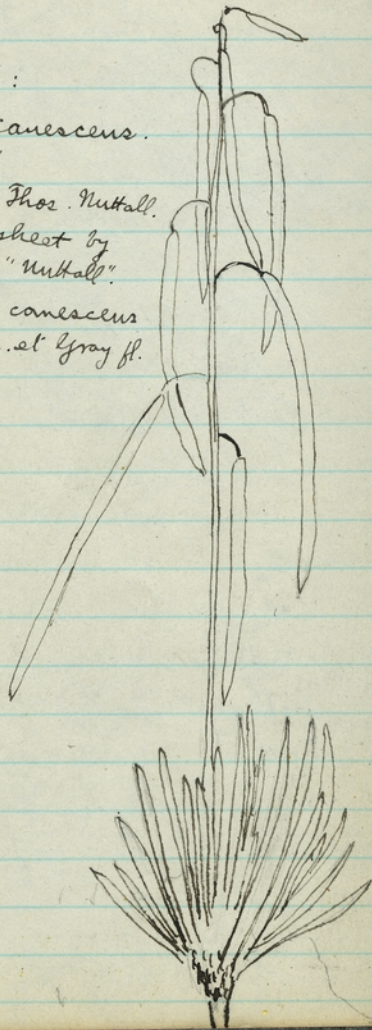
- Gray Herbarium. Science (44:23) says endowment = \$300,000. I suspect from remarks dropped by Dr. Robinson while I was in Cambridge a few days ago, that the Gray Hb. does not get much from current Harvard funds.

[Cont. from p. 143] and so I did! (it was a matter of 35 or 40 cents!!). Tho, having a big mind for botanical matters, it is likely that Fernald is rather petty as to small or personal matters*. It is impossible to conceive Robinson acting so*. In any event we went to luncheon together every day during the time of my stay; after that to a little bakery ^{near the Herbarium} where coffee and cakes are served very cheaply; and I enjoyed him very much indeed for I found Fernald chuck full and brimming over with all sorts of interesting botanical matters. He has so much good humor and a merry twinkle in his eye as he tells most things*. I was simply delighted to hear him talk and thought I should never tire. Of course in California I am so alone phenomenologically that I am hungry for talk.

* * Compare p. 166 ante, re Robinson.

* At any rate he has the reputation of pulling off rather startling rows with some persons. [*** See p. 134]

On label:
"Arabis canescens.
R. M5."
 in hand of Thos. Nuttall.
 written on sheet by
 W. J. Hooker: "Nuttall".
 Also, "*Arabis canescens*
 Nuttall. Torr. et Gray fl.
 of N. Am."



June 16, 1930.

Arrived in Kew from South-
 hampton via London. Came
 over on the *Rochambeau* of the
 French Line from New York.

Before sailing I had visited
 the Gray Herbarium (see p.
 136 ante) and the New York
 Botanical Garden (see p. 167
 ante).

I left Berkeley (see
 Bottom p. 135 ante) on May
 21, I think it was, and
 went straight through to
 Boston via Chicago and
 New York.

Curiously enough, I made
 at the time no record of
 observations crossing the
 United States, nor on the
 ocean (save on p. 202). I

had been so desperately pressed,
so fearfully overloaded that it
was with the utmost difficulty
I caught my steamer at New
York. The train and steamer
gave me a rest - much
needed - and I made no
notes of travel. cf. bottom p.
135

* Cont. from p. 145. I am to
be congratulated that at no time
did I ever diffuse similar stories of
inside politics in my own Univ-
ersity.

- *Arabis canescens* Nutt. On sheets
in the Herbaria at Berkeley an occas-
ional specimen is labeled as *A.*
canescens. One or two sheets from
Cal. have been so labeled (Modoc Co.).

The outstanding features of
the type specimens are: slender
rather specimens ($5\frac{1}{2}$ to $8\frac{1}{2}$ inches
high); ^{small} leaves tufted at base quite
densely, very narrow (narrow or
linear-oblongate, acute), closely
and densely covered with a felt-
like white tomentum!; pods 31 to
45 mm. long, a shade under 2
mm. wide, flat. The pods are
^{than *A. holboellii* aggregate} rather narrower (as to the average
of the latter. In any event the pods
are distinctly flatter than in, let
us say, *A. retrofracta* aggregate.
The stem is scantily leafy with
narrowly linear auriculate-ses-

side leaves 11-12 mm. long. *A. canescens* is undoubtedly a good species, it has a distinctive aspect as a whole and in its pods too. I hardly think it should be confused with *A. retrofracta* or with any of the forms which in California have hitherto gone under the general name of *A. holboellii*. Its narrow straight-edged pods have a character hard to put in words.

— *Arabis holboellii* Hornem. There is a considerable lot of sheets here, 3 genus covers. It is messy from the western U. S. and from British Columbia, the old *holboellii* aggregate. There is little else. There are two sheets from Greenland: one, in fl. only, may well be *A. holboellii* as labeled; the other, by A. C. Seward & R. E. Holttum, in 1921, west Greenland, 690

15; also labeled *A. holboellii*, cannot well be I think. It has short pods, very blunt, on short pedicels. The habit is, however, that of *A. holboellii* but the pods are quite unlike the figure in *Flora Danica*. For thirty years I have struggled with the question as to just what should be done with the name *A. holboellii*, to what extent, if at all, it should be applied to our Californian material. Even here at Kew I find little to help.

— *Stanfordia californica* Wats. The type specimen, by Mrs. A. E. Bush is here. The pods, ^{or rather isotype} 1.5 mm. wide, are very flat, $1\frac{1}{4}$ in. long. It is from Tulare fide Bot. Cal.

When doing herbarium work, of all places I like best to work in the rich collection of the California flora which I have built up at Berkeley. After that I wish to be here at Kew. It is a great delight to be here again. I feel a real thrill at being once more within the bounds of the Garden. The collections are so vast, so rich; apparently inexhaustible are the botanical treasures stored here. And one is given so kind a welcome by all the staff that it warms one. Major Chipp, the vice-Director greets me the morning after my arrival, the Director, Dr. Hill, being temporarily away. Mr. Cotton, the Keeper of the Herbarium, at once made me

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at home in the Herbarium. Dr. F. A. Sprague, my old-time friend, was especially cordial. Dr. Stoff is still here, working now on the *Index Londiniensis*, a colossal reference work to botanical figures. Comes to speak to me, W. C. Worsdell, the author of the paper on the morphology of the cone scale in conifers (*Ann. Bot.*) used in my Forest Botany class so many years; also the author of the *Teratology* volumes. Miss Green is still working here on the *Index Kewensis*. Well, it is a splendid place. Things are so fine, so ample, so conveniently arranged for consultation. What a pleasure it is. And the ^{library, so extensive as to be} magnificent, and so easily consulted, is a real satis-

faction to use.

- Apparently none of the herbarium staff at Kew have private rooms in which to work except the Keeper, Mr. Bottom. Dr. Sprague, the Deputy Keeper, works, as I would express it, "in the open", at any table or place that is convenient in the library, where persons are continually moving about and where he is subject to constant interruptions. Mr. A. S. Skan, the librarian similarly, though interruptions are more in the way of his work.

At Harvard, Professor M. L. Fernald, works in the main hall in front of the entrance door at a large table where he is more or less constantly

interrupted by persons who call at the Gray Herbarium. I imagine that Fernald is of such temperament that he does not mind all this coming and going. In fact he likes to give to everyone who is a botanist a demonstration of the problem he is engaged upon or of its complexities.

- G. G. Pringle, the collector was extremely diffident and retiring, so much so, says Fernald, that he would not accept even an invitation to tea.

— went today, Sunday, with a party of men from New Herbarium ^{small} into Surrey near Dorking for a field trip. We went through the fields and over the low hills; as beautiful English countryside as I have seen in the south of England; — to Leith Hill. Dr. J. A. Sprague continually called my attention to interesting plants. To *Stachys sylvatica* and the remarkable aroma of its leaves; to *Cornus sanguinea*, by a little trick the leaf blade can be broken so as to unravel a web of vascular bundles visible to the eye; to *Prunella cerasus* L., which has two very conspicuous glands at the base of the blade near the petiole summit; to *Brumella vulgaris* with one prong of the upper pair of stamens ending

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in a sterile point; and to many another plants in these woodlands. Sprague also points out the "rythm" which occurs in *Ampelopsis quinquefolia*, *Vitis vinifera* (and other plants probably) of the *Vitaceae*, that is to say there is a monopodium succeeded by a sympodium, then two more sympodia usually before the monopodium is repeated.

We got off the train at Dorking, and immediately got on top ^{North} of a motor bus. It is most pleasant going along English roads and lanes in this way, and through English villages with their picturesque old cottages and flower gardens and churches to Bury Hill Park Farm where we get down and

Leith Hill, June 22, 1930

go on through woods by footpaths and across meadows to Friday Street, a charming hamlet set in a vale with a pond below it where on its borders *Minulus Langsdorffii* is strongly naturalized with larger flowers than I have ever seen before. Spendid beech woods, very tall fine trees, we pass through; and a coppice of hazel is also one of the sights for us. Going towards Leith Hill, Dr. J. M. Dalziel, stopped in a meadow and listened; then called my attention to a low hollow but distinctive sound; it is the call of the cuckoo bird one hundreds yards away in a thicket.

Within one mile of Friday street, at Wotton House, is the home of John Evelyn, author of "The Sylva."

Leith Hill, Surrey, June 22, 1930.

(Cont. from pg. 134)

- No. 15,600. ~~*Acanthia*~~ *Moehringia trinervia* (L.) Clairv. Woods, in an open (to u.c. to mt.)
- No. 15,601. *Lychnis flos-cuculi* L. (Ragged Robin) ditch bank, edge of meadow.
- No. 15,602. *Spergularia rubra* Pers. Edge of meadow by footpath.
- No. 15,603. *Lysimachia nemorum* L. Edge of woods.
- No. 15,604. *Minulus Langsdorffii* Donn. By the pond at Friday street. Extremely showy. The flowers are larger than ever seen at home or in the Atlantic Islands. Except for size I see no reason why this should not be called *M. guttatus* DC.
- No. 15,605. *Galium*
- No. 15,606. ? naturalized.

Returning from the field excursion I was invited by Sprague to Sunday evening dinner at his home near Northton station, Kingston-on-Thames. Mrs. Sprague I found as usual, their children neither well grown up, a son Martin, looks as if he might ^{be} 20 or 22, two girls, Peggy and Ruth, perhaps 16 and 15.

It appears that since about 1905 Sprague has done a great deal of heavy work on the *Index Kewensis* ^{parts} which has nat-
 ially ^{getting out of} led to his ever-deepening interest in nomenclature and to an ever increasing study of the older authors and of herbals. He has, therefore, had occasion to go over Greene's Landmarks of Botanical History very thoroughly and very critically. It is Sprague's judgment

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that Greene has gotten at the essential truth of ^{the} herbals, that his picture of a matter gives the truth of it, however faulty it may be in some details. Sprague ^{explains} that he was surprised how well he (Greene) got at the truth of a matter, in spite ^{the fact} of that Sprague found fault with various details of his work. On account of finding various blemishes in detail, Sprague was inclined to mistrust his work as a whole, but after going over ^{it} in toto, and getting a general view of it, Sprague expresses the opinion indicated at the top of the this page - that is the essential truthfulness of the picture as a whole.

Sprague, however, is very

curious as to how Greene could have misconstrued certain passages in Cordus and elsewhere. Sprague points out that Greene was a better classical scholar than himself and a point of this kind troubled him. It seemed very great carelessness to Sprague. It seemed as if Sprague were pressing me for some explanation or opinion but I found it difficult to give one. I did say this: Take for example certain generic concepts of Greene. I quite agree with his concepts in certain cases, but the details of the concepts may be rather poorly drawn by Greene. I would not say they are carelessly drawn, so much as that they are insufficiently drawn. There is insufficient detail. In a general way a

given concept, we may say, is true, but is insufficiently supported. I recall, now, something that not mentioned to Sprague. Long ago I found it the fact that in those cases where I accepted species of Greene ^{(especially his early species),} that, — in many cases — but not all, the species were much better than ^{Green than one would be led to expect from the diagrams} Greene had shown; that is to say, in such cases, I found a surprising number of ^{or previously} unobserved or unrecorded facts. I think it fair to say that he did not laboriously get down and work on details after the manner of most systematic botanists of capacity. However laborious he was, he was not laborious in the sense of struggling for hours on end with a dissecting microscope and

compound microscope.

Then Sprague went on to say that he had talked with Robinson of the Gray Herbarium about Greene's Landmarks, expressing the opinion quoted above. Robinson was much displeased with such an opinion as Sprague held and said positively that he would not read anything that Greene ever wrote. He went on to say definitely that Greene was a sexual pervert and therefore to be abominated. Sprague was much surprised and replied that he (Sprague) had nothing to do with Greene's private life, that personality was not entering into his judgment, that he was expressing a purely scientific judgment on the

Landmarks of Botanical History while not being in a position to contradict Robinson's charge by evidence that would hold in a court of law, I pointed out:

1. That this charge was, so far as I knew, a recent one, or given circulation recently.
2. That when Greene was at Berkeley he attracted as friends some of the finest and noblest types of our students, such ^{as} Sidney Mezes, who became President of the University of Texas and President of the University of the City of New York, ^{later} such as Chas. A. Ramm later Regent of the University of California; Benjamin Weed, who has not come to any special distinction but is a straight clean gentleman.
3. The botanical students who liked

him and respected him: Victor King Chesnut; Elmer Drew; W.C. Blandale; F. T. Bioletti; J. B. Davy.

4. The high level of his speech. His thoughts were always, so far as we ever knew, on as high a plane as his choice of English words. I never heard a profane word, nor a licentious allusion, fall from his lips. His manner was always extremely dignified and courtly.

5. No charge originated with Mrs. Brandegee who was, says Mrs. S. B. Parish, in love with E. L. Greene during the Academy portion of Greene's life.

— Sprague remarked apropos of the Ragged Robin on Leith Hill (see p. 185 ante) that it was his belief that the cleft petals, occurring so frequently in Caryophyllaceae, are of phylogenetic significance and that

Frankeniaceae - sometimes having cleft petals - are near them. Both orders may have crests on the petals. Habit rather similar. John Lindley, Introduction to the Natural System of Botany, puts Frankeniaceae immediately after Caryophyllaceae.

— The form which I decided upon for the preparation of an index of place names in California indicating a place by miles from a known place and using only the eight cardinal points of the compass, gave me some doubts, tho I have adhered to it. Now, to my satisfaction, I find the first index that I have seen built on that plan: "The Survey Gazetteer of the British Isles, J. G. Bartholomew."

- Dr. J. B. Dary* is here, having come down from Oxford a few days ago. In stressing the importance of systematic botany I pointed out that our foresters in the United States seldom know any systematic botany and are unable for themselves to determine the plants in their forests. Likewise the ecologists, who in addition seldom make specimens. Dary remarked that ^{J.W.} ~~he~~ ^{he} in South Africa has been publishing from the first year of his arrival there and has been making a great stir in ecology, although he does not himself know the plants and depends on a botanist who has grown old and forgotten much.

* Of all men in our Dept. at Berkeley, Dary had the most of savoir-vivre.

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- Stapfia colusana Dary. Dary tells me that he got this on the road which runs directly east from the Town of Willows and about half way to the Sacramento River. This statement disagrees with the record in Engler's, 6:111, that is near Princeton on stage-road to Norman, by rain-pools of the alkali goose-lands. But then, botanists have been unable to re-collect it at the latter station.

- Called on E. G. Baker, my old-time friend at 3 Cumberland Road, Kew, and found H. N. Ridley (Flora of the Malay Peninsula) there. Ridley is publishing a work on the distribution of seeds over the earth and has a most pat explanation for nearly everything. He suggests difficulties to certain explanations quite positively and shortly and with a distinct air of triumph.

— W. R. Maxon, U. S. National Herbarium, is here today. He said: "Dr. Hitchcock (A.S.) has had two operations for prostrate and may have to have another. At any rate he is under continuous treatment and may not come to the Congress. Mrs. Agnes Chase has returned from Brazil. Mrs. Inez Mexia is staying on and expects to collect for another year."

Maxon is inquiring after certain of M. E. Jones Contributions. I told him how to get them. He remarked regarding Jones' outbreaks in print that often there was just enough truth in them to mislead people regarding the whole matter. Curiously enough Maxon thought that Jones

June 29, 1930.

was not hostile to me, or at least not specially militant. — Jos. D. Hooker. There was evidently a sale of his botanical books after his death, because a copy of the *Genera Plantarum* — here is marked as thus acquired!

Wimbledon, June 30, 1930.

Went this morning to the John Innes Research Institute to look over the *Pentstemon* cultures of Mr. S. F. La Cour, John Innes Horticultural Institute, at the invitation of Dr. Edgar Anderson, late of the Missouri Botanical Garden. Dr. Anderson wished me to name up the *Pentstemons* as far as possible, but especially to challenge misnaming. Many of the cultures have been derived

from commercial nursery seed, probably long grown in gardens and therefore much mixed in all likelihood, and in consequence, at any event, unreliable for garden cultures. One of the typical plants in the beds of Mr. La Cour is *Pentstemon heterophyllus*. He said, interestingly enough, that he had been unable to cross this with any other species. He said, further, that he was able to hybridize only species having similar rather deliquescent. La Cour, has, on the whole a lot of material, most of it in flower. What he needs is seed from known wild species.

Dr. Anderson is working genetically crossing *Aquilegia*

and took me through his culture demonstrating. I was much impressed by his *Aquilegia scaberrata* (spurless) which in a way resembles an *Isopyrum* rather than an *Aquilegia*. Mr. Crane demonstrated his plums, rubus forms, apples and cherries very interestingly for my benefit. Likewise

Miss de Winton did the same for sweet peas. The work on *Papaver* was shown me most thoroughly by Mr. Philp, a Scotchman. Miss Anderson, evidently a Swedish woman, gave a highly graphic demonstration in the hot houses of her work on the *Scolopendrium* fern. At luncheon I met Mr. Darlington, a fine looking young Englishman and also the librarian, a young

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Wimbledon, Surrey, June 30.

but very quick-witted English girl who is also interested in the breeding of *Agrostis*. The land of the station is all flat and evidently can be worked to good advantage. I think Anderson said that there was forty acres in the piece about the house, and that there were (?) eighty acres a little removed.

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J. M. Dalziel
(Kew staff)

Edgar Anderson
(of John Innes Horti-
cultural Institute,
formerly Missouri
Botanical Garden)

202. Addressees

- John Innes Horticultural Institute, Mostyn Road, S.W. 19, London, England
For list of staff see pages 197-199.
- A. P. Balfour, Sutton and Sons, Seed Trail Grounds, Slough, Bucks., England.
- Dr. and Mrs. J. A. Sprague, (Martin, Peggy, Ruth), Kingston-on-Thames, Surrey.
- James William Gardner, an exceedingly pleasant old gentleman, passenger on the Rochambeau. He travels everywhere about the world constantly, spends much time in S. Cal., was a judge at the Panama-Pacific Expo., S. F., an engineer by profession.
- Dr. Harold Lorraine Weatherford, anatomist, staff of Harvard Medical School, former student of Peirce at Stanford. Passenger on the Rochambeau.

Field Memoranda

- Kellogg Arab ranch; 3 mi. west of Panama, off the boulevard.
- Redwood near Grannell, Humboldt Co., 308 ft. h., 30 ft. diam.
- Fresno Grove Big Trees is accessible by auto via north fork + Bass Lake. McKinley Grove, to Sutter's Ranch sta. by auto, then $5\frac{1}{2}$ miles of trail.